

***UNITED STATES – CERTAIN METHODOLOGIES AND THEIR APPLICATION TO
ANTI-DUMPING PROCEEDINGS INVOLVING CHINA***

Recourse to Article 22.6 of the DSU by the United States

(DS471)

**WRITTEN SUBMISSION
OF THE UNITED STATES OF AMERICA**

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<i>EC – Bananas III (US)</i> (Article 22.6 – EC)	Decision by the Arbitrators, <i>European Communities – Regime for the Importation, Sale and Distribution of Bananas – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU</i> , WT/DS27/ARB, 9 April 1999
<i>EC – Hormones (Canada)</i> (Article 22.6 – EC)	Decision by the Arbitrators, <i>European Communities – Measures Concerning Meat and Meat Products (Hormones), Original Complaint by Canada – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU</i> , WT/DS48/ARB, 12 July 1999
<i>EC – Hormones (US)</i> (Article 22.6 – EC)	Decision by the Arbitrators, <i>European Communities – Measures Concerning Meat and Meat Products (Hormones), Original Complaint by the United States – Recourse to Arbitration by the European Communities under Article 22.6 of the DSU</i> , WT/DS26/ARB, 12 July 1999
<i>US – 1916 Act (EC)</i> (Panel)	Panel Report, <i>United States – Anti-Dumping Act of 1916, Complaint by the European Communities</i> , WT/DS136/R and Corr.1, adopted 26 September 2000, upheld by Appellate Body Report WT/DS136/AB/R, WT/DS162/AB/R
<i>US – 1916 Act (EC)</i> (Article 22.6 – US)	Decision by the Arbitrators, <i>United States – Anti-Dumping Act of 1916, Original Complaint by the European Communities – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS136/ARB, 24 February 2004
<i>US – COOL (Article 22.6 – US)</i>	Decision by the Arbitrators, <i>United States – Certain Country of Origin Labelling (COOL) Requirements - Recourse to Article 22.6 of the DSU by the United States</i> , WT/DS384/ARB, and Add. 1; WT/DS386/ARB, and Add. 1, circulated 7 December 2015
<i>US – FSC</i> (Article 22.6 – US)	Decision by the Arbitrator, <i>United States – Tax Treatment for “Foreign Sales Corporations” – Recourse to Arbitration by the United States under Article 22.6 of the DSU and Article 4.11 of the SCM Agreement</i> , WT/DS108/ARB, 30 August 2002
<i>US – Gambling</i> (Article 22.6 – US)	Decision by the Arbitrator, <i>United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS285/ARB, 21 December 2007

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<i>US – Offset Act (Byrd Amendment) (Brazil) (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Continued Dumping and Subsidy Offset Act of 2000, Original Complaint by Brazil – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS217/ARB/BRA, 31 August 2004
<i>US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Continued Dumping and Subsidy Offset Act of 2000, Original Complaint by Canada – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS234/ARB/CAN, 31 August 2004
<i>US – Offset Act (Byrd Amendment) (EC) (Article 22.6 – US)</i>	Decision by the Arbitrator, <i>United States – Continued Dumping and Subsidy Offset Act of 2000, Original Complaint by the European Communities – Recourse to Arbitration by the United States under Article 22.6 of the DSU</i> , WT/DS217/ARB/EEC, 31 August 2004
<i>US – Section 110(5) Copyright Act (Article 25)</i>	Award of the Arbitrators, <i>United States – Section 110(5) of the US Copyright Act – Recourse to Arbitration under Article 25 of the DSU</i> , WT/DS160/ARB25/1, 9 November 2001
<i>US – Tuna II (Mexico) (Article 22.6)</i>	Decision by the Arbitrator, <i>United States – Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products (Recourse to Article 22.6 of the DSU by Mexico)</i> , WT/DS381/ARB, 25 April 2017
<i>US – Upland Cotton (Article 22.6 – US II)</i>	Decision by the Arbitrator, <i>United States – Subsidies on Upland Cotton – Recourse to Arbitration by the United States under Article 22.6 of the DSU and Article 7.10 of the SCM Agreement</i> , WT/DS267/ARB/2 and Corr.1, 31 August 2009
<i>US – Antidumping Methodologies (China) (Panel)</i>	Panel Report, <i>United States – Certain Methodologies and Their Application to Anti-Dumping Proceedings Involving China</i> , WT/DS471/R and Add.1, adopted 22 May 2017, as modified by Appellate Body Report WT/DS471/AB/R
<i>US – Antidumping Methodologies (China) (Article 21.3(c))</i>	Award of the Arbitrator, <i>United States – Certain Methodologies and Their Application to Anti-Dumping Proceedings Involving China (Recourse to Article 21.3(c) of the DSU)</i> , WT/DS471/RPT, 19 January 2018

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Exhibit No.	Description
USA-1	Table Presenting the Correct HTS Codes for the 13 Products Subject to “As Applied” Findings
USA-2	U.S. Federal Register Notices Setting Forth the Correct HTS Codes for the 13 Products Subject to “As Applied” Findings
USA-3	Table Presenting the Correct HTS Codes for the 12 Products Subject to “As Such” Findings Discussed in China’s Methodology Paper
USA-4	U.S. Federal Register Notices Setting Forth the Correct HTS Codes for the 12 Products Subject to “As Such” Findings Discussed in China’s Methodology Paper
USA-5	Table Presenting Relevant Antidumping Duty Rates for the 13 Products Subject to “As Applied” Findings and the 12 Products Subject to “As Such” Findings Discussed in China’s Methodology Paper
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USA-7	<i>Notice of Amended Final Determination Pursuant to Court Decision, Notice of Revocation of Antidumping Duty Order in Part, and Discontinuation of Fifth Antidumping Duty Administrative Review: High Pressure Steel Cylinders from the People’s Republic of China, 82 Fed. Reg. 46,758 (October 6, 2017)</i>
USA-8	<i>Notice of Notice of Court Decision Not in Harmony With Final Results of Administrative Review and Notice of Amended Final Results of Administrative Review Pursuant to Court Decision: Polyethylene Terephthalate Film, Sheet, and Strip From the People’s Republic of China, 80 Fed. Reg. 13,826 (March 17, 2015)</i>
USA-9	<i>Notice of Final Results of Antidumping Duty Administrative Review; 2011–2012: Polyethylene Terephthalate Film, Sheet, and Strip From the People’s Republic of China, 79 Fed. Reg. 37,715 (July 2, 2014)</i>
USA-10	<i>Memorandum to Ronald K. Lorentzen from Christian March Subject: Decision Memorandum for Preliminary Results of 2011-2012 Antidumping Duty Administrative Review: Polyethylene Terephthalate Film, Sheet, and Strip from the People’s Republic of China (December 18, 2013)</i>

USA-11	<i>Memorandum to Paul Piquado from Christian Marsh re: Polyethylene Terephthalate Film, Sheet, and Strip from the People’s Republic of China, Issues and Decision Memorandum for the Final Results of the 2011-2012 Administrative Review</i> (June 24, 2014)
USA-12 [BCI]	First Written Submission of the United States of America (Confidential) in <i>US – Anti-Dumping Methodologies</i> (China) (Panel), (Corrected Version May 13, 2015) (excerpted), para. 184.
USA-13 [BCI]	Appendices Presenting Domestic Shipment and Import Data, Elasticity Parameters, and Model Results for Each Modeling Scenario, sourced from the U.S. International Trade Commission
USA-14	Notice of Amended Final Determination of Sales at Less Than Fair Value and Antidumping Duty Order; <i>Certain Oil Country Tubular Goods from the People’s Republic of China</i> , 75 Fed. Reg. 28,551 (May 21, 2010)
USA-15	Paper by R. Hallren and D. Riker, An Introduction to Partial Equilibrium Modeling of Trade Policy, Economic Working Paper Series (Working Paper 2017-07-B), U.S. International Trade Commission, July 2017)
USA-16	Table Presenting Elasticities
USA-17	Elasticities for 13 Products (coated paper, carrier bags, PET film, cast iron pipe fittings, circular welded carbon quality steel, circular welded quality steel line pipe, steel line and pressure pipe, copper pipe and tube, steel nails, cold rolled steel flat products, truck tires, stainless steel sheet and strip, and washers) (sourced from the U.S. International Trade Commission)
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USA-22	Written Submission of the United States of America in <i>US – Anti-Dumping Methodologies</i> (China) (<i>Recourse to Article 21.3(c) of the DSU</i>), (November 17, 2017) (excerpted), para. 23

USA-23	Mostly Harmless Econometrics: An Empiricist’s Companion, Joshua D. Angrist and Jorn-Steffen Pischke (Princeton University Press, Princeton, 2009). Chapter 5.2
USA-24 [BCI]	Table Presenting Estimated Levels of Nullification or Impairment: Formula-Based Results
USA-25	BCI Authorization Letters
USA-26 [BCI]	Table Estimating the Level of Nullification or Impairment Related to Recommendations Adopted by the DSB Concerning the USDOC’s Use of the Alternative, Average-to-Transaction Comparison Methodology and “Zeroing” in <i>Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses</i> (USDOC investigation number A–570–958)
USA-27	Data Inputs for 13 Products (coated paper, carrier bags, PET film, cast iron pipe fittings, circular welded carbon quality steel, circular welded quality steel line pipe, steel line and pressure pipe, copper pipe and tube, steel nails, cold rolled steel flat products, truck tires, corrosion resistant steel products, stainless steel sheet and strip, and washers) Regarding Domestic Shipment Data

I. INTRODUCTION

1. On November 26, 2018, China submitted to the Arbitrator a methodology paper explaining the basis for China's request to suspend concessions or other obligations in this dispute. China asserts that the level of nullification or impairment totals an exorbitant \$7.043 billion annually.¹ As demonstrated in this written submission, China has grossly overstated the level of nullification or impairment. The actual level of nullification or impairment is no more than **\$278 million** per year.²

2. In its methodology paper, China applies a flawed economic methodology that overestimates the level of nullification or impairment attributable to the WTO-inconsistent U.S. antidumping duty measures subject to recommendations adopted by the Dispute Settlement Body ("DSB"). China's methodology paper demonstrates that, contrary to the requirements of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU"), the level of suspension of concessions that China has requested³ is not equivalent to the level of nullification or impairment. In this submission, the United States explains in detail the legal errors in China's approach, why China's methodology is inappropriate, as well as the numerous false assumptions and incorrect data inputs on which China relies in its methodology paper.

3. Pursuant to Article 22.7 of the DSU, the task of an arbitrator is to determine whether the requested level of suspension of concessions or other obligations is equivalent to the level of nullification or impairment of benefits accruing to the complaining Member under the relevant covered agreement(s). The starting point in any analysis of a request for authorization to suspend concessions is to determine the extent to which the Member's WTO-inconsistent measure that is the subject of the DSB's recommendations nullifies or impairs benefits accruing to the complaining party. Thus, an analysis of the level of nullification or impairment must focus on the benefit allegedly nullified or impaired as a result of the breach found by the DSB. Due to conceptual flaws and methodological errors, however, China has not provided a calculation that is equivalent to the level of nullification or impairment.

4. This proceeding requires that each of the 25 proceedings specifically identified in China's methodology paper⁴ be separately analyzed to determine the most appropriate methodology to

¹ WT/DS471/18.

² Given the significant number of products at issue in this proceeding, and limitations obtaining and analyzing data due to a lapse in U.S. Government appropriations affecting U.S. Department of Commerce ("USDOC"), the U.S. International Trade Commission ("USITC"), and U.S. Customs and Border Protection ("CBP") personnel, the United States is not able to provide, at this time, an estimate of the level of nullification or impairment for one product at issue in this proceeding, wooden bedroom furniture. The United States intends to complete the economic analysis of the remaining products, and provide that analysis to the Arbitrator and China, at the earliest feasible date.

³ WT/DS471/18.

⁴ China identified 13 antidumping duty orders in connection with its "as applied" claims concerning the Single Rate Presumption and 4 of those 13 in connection with its "as applied" claims concerning use of the alternative, average-to-transaction comparison methodology and the use of "zeroing" in conjunction with that alternative comparison methodology in calculating a dumping margin. Also, China specifically identified and analyzed another 12 antidumping duty orders in connection with its "as such" claims concerning the Single Rate Presumption. See Methodology Paper Submitted by China (November 26, 2018) ("China's Methodology Paper"), para. 10.

calculate the level of nullification or impairment. China appears to agree.⁵ Yet, China proposes a one-size-fits-all approach to estimating its requested level of suspension of concessions. China's proposed methodology is of no use to the Arbitrator for it cannot capture the impact of antidumping duty margins on trade flows, which is the key issue in this proceeding. China compounds its methodological error by relying on false assumptions and incorrect data to implement its approach.

5. Furthermore, China's methodology paper contains errors sufficient by themselves to establish that China's proposal is fundamentally flawed. For instance, China proposes an incorrect counterfactual, applies an economic method that is completely inappropriate, and makes numerous errors when compiling the data inputs it uses to estimate the level of nullification. As a result, China overestimates the level of nullification or impairment attributable to the maintenance following the expiration of the reasonable period of time of the U.S. antidumping measures about which the DSB adopted recommendations.

6. China bases its request on the assertion that the Arbitrator must use a counterfactual that assumes the complete removal of the U.S. antidumping duty measures following the expiration of the reasonable period of time, even U.S. antidumping duty measures that have not been found to be WTO-inconsistent. China's proposal is contrary to the DSU and results in a gross overestimation of the level of nullification or impairment. The proper counterfactual to be applied for the purpose of this proceeding is the removal of the WTO-inconsistent U.S. antidumping duty measures, not the revocation or complete removal of the antidumping duty orders themselves.

7. As discussed above, each of the 25 antidumping proceedings that China discusses in its methodology paper requires separate analysis to determine the appropriate methodological framework for estimating the level of nullification or impairment. In response to the flawed one-size-fits-all methodology proposed by China, the United States, based on the trade data currently available, proposes three methodologies, each as appropriate to a set of antidumping orders found to be WTO-inconsistent, that accurately estimate the trade effects of the WTO-inconsistent U.S. antidumping duty measures following the expiration of the reasonable period of time.

8. One methodology compares the antidumping duty rate assigned to companies that form part of the China-government entity—an entity established based on a presumption that the DSB found to be WTO-inconsistent—with an antidumping duty rate assigned to companies found not to form part of the China-government entity (in other words, companies that overcame the presumption and, therefore, were not assigned the China-government entity rate). This methodology uses firm-specific data to provide precise estimates of the level of nullification or impairment.

⁵ See China's Methodology Paper, para. 49 (noting that: "The precise econometric specification would vary from dispute to dispute; in some disputes a reduced form approach (such as a gravity model) might be appropriate and in other disputes formal modeling of demand and supply conditions would be feasible.") and para. 50 (noting that: "The number and variety of individual cases underlying this dispute make formal econometric modeling infeasible.").

9. The second methodology is a partial equilibrium model that estimates the trade effects of the WTO-inconsistent antidumping duty measures with precision. Specifically, the United States uses an Armington-based imperfect substitutes partial equilibrium model, which is a suitable tool for estimating the trade effects of trade remedy measures.

10. The third methodology is a formula-based approach, which uses the market share for a specific category of Chinese imports from the period of investigation of the antidumping investigation and applies that share to total U.S. imports from China subject to U.S. antidumping duties in 2017. The formula-based approach is used when it is not possible to use the Armington-based imperfect substitutes partial equilibrium model reliably due to the small level of imports of a product from China.

11. In the discussion below, following a brief recounting of the procedural background of this proceeding, the United States explains the considerations to determine the correct level of nullification or impairment and why the approach taken by the United States is appropriate.

II. PROCEDURAL BACKGROUND

12. At its meeting on May 22, 2017, the DSB adopted the report of the Appellate Body,⁶ and the report of the panel as modified by the Appellate Body, in *United States – Certain Methodologies and their Application to Anti-Dumping Proceedings Involving China (DS471)*.⁷ The adopted reports contain, *inter alia*, findings that the use by the USDOC of a rebuttable presumption that all producers and exporters in China comprise a single entity under government control (“the China-government entity”) to which a single antidumping margin is assigned (the Single Rate Presumption (“SRP”)) is inconsistent with U.S. WTO obligations, both “as such”⁸ and “as applied”⁹ in 38 individual antidumping investigations and administrative reviews.¹⁰ The reports also contain findings that the USDOC’s use in certain proceedings of an alternative, average-to-transaction comparison methodology, also referred to as a “targeted dumping methodology,” and the use of “zeroing” in conjunction with that alternative methodology, are inconsistent with U.S. WTO obligations.

13. In particular, the panel found that the SRP is inconsistent with two obligations under the *Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994* (“AD Agreement”): (1) the obligation in Article 6.10 of the AD Agreement to calculate individual dumping margins for each known exporter of the product under consideration; and (2) the obligation in Article 9.2 of the AD Agreement to specify individual antidumping duties and name the individual suppliers of the product concerned.¹¹ Based on the same reasoning that

⁶ The term “report of the Appellate Body” or “Appellate Body report” is utilized without prejudice to the adoption procedure applied by the DSB.

⁷ See Minutes of May 22, 2017 DSB Meeting, WT/DSB/M/397, para. 9.9 (August 18, 2017).

⁸ See *US – Anti-Dumping Methodologies (China) (Panel)*, para. 8.1.c.ii.

⁹ See *US – Anti-Dumping Methodologies (China) (Panel)*, para. 8.1.c.iii.

¹⁰ See, e.g., *US – Anti-Dumping Methodologies (China) (Panel)*, paras. 2.3 and 3.1.d, n. 20.

¹¹ See *US – Anti-Dumping Methodologies (China) (Panel)*, paras. 7.367-7.368.

underlies its “as such” finding, the panel also found the application of the SRP in 38 USDOC determinations to be inconsistent with these two provisions.¹²

14. The panel also found certain aspects of the USDOC’s dumping calculation related to the use of the alternative, average-to-transaction comparison methodology and the use of “zeroing” in conjunction with that alternative comparison methodology to be inconsistent with Article 2.4.2 of the AD Agreement, “as applied” in three antidumping investigations.¹³ Additionally, the panel found that the United States acted inconsistently with Article 9.3 of the AD Agreement and Article VI:2 of the *General Agreement on Tariffs and Trade 1994* (“GATT 1994”) in using an average-to-transaction comparison methodology with “zeroing” when calculating margins of dumping in one antidumping administrative review.¹⁴

15. On January 19, 2018, an arbitrator determined pursuant to Article 21.3(c) of the DSU that the reasonable period of time (“RPT”) for the United States to implement the recommendations of the DSB in this proceeding was 15 months from the date on which the DSB adopted the panel and appellate reports in this proceeding.¹⁵ Accordingly, the RPT expired on August 22, 2018.¹⁶

16. On September 11, 2018, China requested authorization from the DSB to suspend the application of concessions or other obligations under the covered agreements pursuant to Article 22.2 of the DSU.¹⁷ On September 19, 2018, the United States objected to the level of suspension proposed by China.¹⁸ Pursuant to Article 22.6 of the DSU, the U.S. objection referred the matter to arbitration.

III. APPROPRIATE CALCULATION OF THE LEVEL OF NULLIFICATION OR IMPAIRMENT

17. Pursuant to Article 22.6 of the DSU, the United States objected to China’s proposed level of suspension of concessions or other obligations because the level of suspension that China proposed is not equivalent to the level of nullification or impairment attributable to the measures maintained following the expiration of the RPT.

18. Article 22.4 of the DSU is explicit and requires that the “level of suspension of concessions or other obligations authorized by the DSB shall be equivalent to the level of nullification or impairment.” China’s estimation of the level of nullification or impairment is contrary to the evidence and its request for suspension is contrary to the DSU. The evidence demonstrates that the level of nullification or impairment is no more than \$277.2 million.

¹² See *US – Anti-Dumping Methodologies (China) (Panel)*, para. 7.382.

¹³ See *US – Anti-Dumping Methodologies (China) (Panel)*, n. 15.

¹⁴ See *US – Anti-Dumping Methodologies (China) (Panel)*, para. 3.1.b.

¹⁵ *US – Anti-Dumping Methodologies (China) (Article 21.3(c))*, para. 4.1.

¹⁶ *US – Anti-Dumping Methodologies (China) (Article 21.3(c))*, para. 4.1.

¹⁷ WT/DS471/18.

¹⁸ WT/DS471/19

Additionally, China’s calculations suffer from conceptual flaws, methodological errors, and data errors that result in estimates of the level of nullification or impairment that are not accurate, not supportable, and inconsistent with Article 22.4 of the DSU. The specific errors in China’s economic analysis are discussed in section IV of this submission.

19. To further demonstrate that China has failed to request a permissible level of suspension, the United States provides in this submission a correct estimation of the level of nullification or impairment. This submission first discusses the requirement of Article 22 of the DSU that the proposed level of suspension be equivalent to the level of nullification or impairment. The submission then discusses the proper methodological approach to calculating the level of nullification or impairment in this proceeding.

A. Article 22 of the DSU Requires that the Proposed Level of Suspension Be Equivalent to the Level of Nullification or Impairment

20. Pursuant to Article 22.4 of the DSU, the DSB will not authorize the suspension of concessions or other obligations unless “the level” of suspension is “equivalent” to the level of nullification or impairment. Arbitrators in the past have recognized that “equivalence” is an exacting standard:

[T]he ordinary meaning of the word “*equivalence*” is “equal in value, significance or meaning”, “having the same effect”, “having the same relative position or function”, “corresponding to”, “something equal in value or worth”, also “something tantamount or virtually identical.”¹⁹

21. Article 22.7 of the DSU further provides that where a matter is referred to arbitration, the arbitrator “shall determine whether the level of . . . suspension is equivalent to the level of nullification or impairment.” The starting point in the analysis of a suspension request is to determine the extent to which any WTO-inconsistent measure maintained following the expiration of the RPT nullifies or impairs benefits accruing to the complaining Member under the relevant covered agreement(s).

22. Thus, an analysis of the level of nullification or impairment must focus on the “benefit” accruing to the complaining Member under a covered agreement that is allegedly nullified or impaired as a result of the breach found by the DSB.²⁰ Arbitrators in past proceedings have

¹⁹ *EC – Bananas III (US) (Article 22.6 – EC)*, para. 4.1. *See also US – COOL (Article 22.6 – US)*, para. 4.3.

²⁰ The concept of nullification or impairment derives from Article XXIII of the GATT 1994. Article XXIII provides: “If any contracting party should consider that any benefit accruing to it directly or indirectly under this Agreement is being nullified or impaired . . . as a result of . . . the failure of another contracting party to carry out its obligations under this Agreement . . . the matter may be referred to the CONTRACTING PARTIES.” This concept is then reflected in the DSU, including Article 3.3 (“The prompt settlement of situations in which a Member considers that any benefits accruing to it directly or indirectly under the covered agreements are being impaired by measures taken by another Member is essential to the effective functioning of the WTO and the maintenance of a proper balance between the rights and obligations of Members.”), as well as Articles 3.5, 10.4, and 23. For example, in *US – Section 110(5) Copyright Act (Article 25)*, the arbitrator found that the analysis of nullification or impairment analysis must focus on what benefits the EC would receive if the measure at issue – Section 110(5)(B) – were

uniformly based their determinations on hard evidence and have refused to “accept claims that are ‘too remote’, ‘too speculative’, or ‘not meaningfully quantified.’”²¹ As the arbitrators in *EC – Hormones (US) (Article 22.6 – EC)* and *EC – Hormones (Canada) (Article 22.6 – EC)* found, “we need to guard against claims of lost opportunities where the causal link with the inconsistent [measure] is less than apparent, i.e., where exports are allegedly foregone not because of the [inconsistent measure] but due to other circumstances.”²²

23. In this proceeding, China’s request for suspension is tremendously in excess of the level of nullification or impairment – and therefore not “equivalent” to it.²³ As explained in section III.C below, if the WTO-inconsistent U.S. antidumping measures on products from China were brought into compliance following the expiration of the RPT in the manner identified in this submission,²⁴ the value of exports of those products from China to the United States would increase by – and thus, the level of nullification or impairment is no more than – \$278 million. China’s estimation is grossly in excess of the “equivalent” level – more than 25 times higher.

24. China’s gross overstatement of the level of nullification or impairment, as we explain in section IV, is the result of a fundamentally flawed economic method that is premised on false assumptions. China compounds its error by making numerous mistakes in compiling the data inputs used in its estimation of the level of nullification or impairment.

25. In previous Article 22.6 proceedings, the arbitrator has compared the level of trade for the complaining party under the WTO-inconsistent measure to what the complaining party’s level of trade would be expected to be where the Member concerned has brought the WTO-inconsistent measure into conformity following the expiration of the RPT. The situation in which the Member concerned has removed the WTO inconsistency is referred to as the “counterfactual.” The difference in the level of trade under these two situations typically represents the level of nullification or impairment. Other Article 22.6 arbitrators have recognized that a counterfactual was an appropriate method in those proceedings to calculate a level of nullification or

modified in accordance with the DSB recommendation. *See US – Section 110(5) Copyright Act (Article 25)*, paras. 3.20-3.35.

²¹ *US – 1916 Act (EC) (Article 22.6 – US)*, para. 6.10; *see also id.*, paras. 5.54 (“In determining the level of nullification or impairment ... we need to rely, as much as possible, on credible, factual, and verifiable information. We cannot base any such estimates on speculation.”) and 5.69 (“We are of the view that any claim for a deterrent or ‘chilling effect’ by the European Communities in the present case would be too speculative, and too remote.”).

²² *EC – Hormones (US) (Article 22.6 – EC)*, para. 41; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 40. *See also EC – Hormones (US) (Article 22.6 – EC)*, para. 77 (refusing to consider, as “too speculative,” lost exports that would have resulted from foregone marketing campaigns).

²³ *See DSU*, Art. 22.4.

²⁴ *See US – Anti-Dumping Methodologies (China) (Recourse to Article 21.3(c) of the DSU)*, Written Submission of the United States of America (November 17, 2017) (excerpted), para. 23 (Exhibit USA-28).

impairment,²⁵ and China itself proposes the use of a counterfactual in this proceeding.²⁶ China, however, has proposed an incorrect counterfactual. As explained below, China’s proposed counterfactual has no support in the DSU.

26. Analysis using a counterfactual is appropriate to determine the level of nullification or impairment caused by the WTO-inconsistent U.S. antidumping measures. That is, the appropriate analysis requires consideration of the present trading relationship between China and the United States (as represented by the 2017 baseline),²⁷ as well as what that relationship would be if the U.S. measures had been brought into compliance with the DSB recommendations following the expiration of the RPT (the counterfactual). As described below, the trade differential will be the level of nullification or impairment attributable to the maintenance of the U.S. measures.

B. The Appropriate Counterfactual Eliminates the WTO-Inconsistent U.S. Antidumping Duty Measures

27. China’s proposed counterfactual is contrary to the DSB’s recommendations. In this section, the United States first explains why the counterfactual proposed by China is incorrect. The United States then explains why the appropriate counterfactual is modification of the U.S. antidumping measures to eliminate the WTO-inconsistencies found by the DSB.

1. China’s Counterfactual Has No Support in the DSU

28. China proposes to estimate the level of nullification or impairment based on assuming the withdrawal of all of the U.S. antidumping duty measures, even parts of the U.S. antidumping duty measures that are not subject to the DSB’s recommendations.²⁸ Not only does China’s proposed counterfactual have no support in the DSU, there is also no precedent for an arbitrator to choose a counterfactual that goes beyond the DSB’s recommendations.

29. Article 22.1 of the DSU provides that compensation and the suspension of concessions is available in the “event that the recommendations” of the DSB “are not implemented within a reasonable period of time.” Thus, Article 22.1 of the DSU directs an arbitrator to base an Article 22.6 decision on the “recommendations” of the DSB.

²⁵ See, e.g., *US – Gambling (Article 22.6 – US)*, para. 3.14 (“the use of a counterfactual to assess the level of exports that would have accrued to Antigua, had the United States complied with the rulings, constitutes an appropriate basis for assessing the level of nullification or impairment of benefits accruing”); *US – Offset Act (Byrd Amendment) (Canada) (Article 22.6 – US)*, para. 4.22; *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 37; *EC – Bananas III (US) (Article 22.6 – EC)*, para. 7.1 *et seq.*; *US – Tuna (Article 22.6 – US)*, para. 4.4.

²⁶ See, e.g., China’s Methodology Paper, para. 19.

²⁷ China proposes using full year 2017 data as the baseline for a counterfactual analysis in this proceeding. See China’s Methodology Paper, para. 54. The United States does not object to using 2017 as the baseline. 2017 is a recent period of time for which data are available.

²⁸ China’s Methodology Paper, paras. 22 – 26.

30. Similarly, Article 22.2 of the DSU, which is explicitly referenced in the first sentence of Article 22.6, limits the role of an arbitrator to assessing the effects of the WTO-inconsistent U.S. antidumping duty measures in accordance with the DSB’s recommendations. To go beyond the DSB recommendations, as China proposes, would be contrary to the DSU.

31. Past arbitrators have understood the DSU consistently on this point. In *US – Tuna II (Mexico)*, the arbitrator explained:

Read together, Articles 22.2 and 22.6 of the DSU thus establish that a complaining Member may seek authorization to suspend concessions in situations where the responding Member has failed, within the RPT, to bring into conformity a measure that has previously been found to be inconsistent with the covered agreements. It is therefore the continued WTO-inconsistency of the original or a compliance measure (where a compliance measure was taken within the RPT) at the time the RPT expires that forms the basis for any request for authorization to suspend concessions.²⁹

Likewise, in *US – 1916 Act (EC) (Article 22.6 – US)*, the arbitrator explained that:

[T]he mandate of the arbitrators is to determine whether the level of suspension of concessions or other obligations sought by the complaining party is equivalent to the level of nullification or impairment sustained by the complaining party as a result of the failure of the responding party to bring its WTO-inconsistent measures into compliance.³⁰

32. As explained in section II of this submission, the DSB recommendations at issue in this proceeding relate to the use by the USDOC of the SRP, as well as the use in certain proceedings of an alternative, average-to-transaction comparison methodology and “zeroing” in conjunction with that alternative comparison methodology.

33. China proposes an inappropriate approach to avoid the “complexity of distinguishing different parts of the WTO inconsistencies” of the antidumping measures at issue in this proceeding.³¹ In other words, China proposes that the Arbitrator base the estimation of the level of nullification or impairment on an incorrect counterfactual because China believes that using the correct counterfactual would be difficult. While assuming complete withdrawal of the U.S. antidumping duty measures certainly simplifies China’s task of estimating the level of nullification or impairment, China’s proposed level of nullification and impairment simply is not based on the DSB’s recommendations.

²⁹ *US – Tuna II (Mexico) (Article 22.6)*, para 3.20.

³⁰ *US – 1916 Act (EC) (Article 22.6 – US)*, para.4.5

³¹ *Id.*

34. China’s counterfactual overestimates the level of nullification or impairment. China justifies its incorrect assumption by asserting that “there is no readily available data source that would allow China or any other Member to study changing trade flows over time on a company-by-company basis.”³² China’s assertion is incorrect. While it may be challenging to gather relevant data, they are available and the United States is providing the required data to the Arbitrator with this submission.

35. To determine the equivalent level of nullification or impairment in this proceeding, it is necessary to correctly understand the findings adopted by the DSB. The DSB findings of WTO inconsistency relate to certain aspect of the U.S. antidumping measures, but other aspects of the U.S. antidumping measures have not been found to be WTO-inconsistent. As the United States will discuss in the following section, the antidumping duty rates that apply to Chinese imports at issue in this proceeding can be broken down into four categories.

- Imports of Chinese merchandise to which individual antidumping duty rates apply.
- Imports of Chinese merchandise from firms that were not individually examined yet received what we will label as a “separate duty rate” (that is, a rate separate from the rate assigned to the China-government entity).
- Imports of Chinese merchandise from firms that are subject to the antidumping duty rate assigned to the China-government entity (“China-government entity rate”) for which there is evidence that they failed to cooperate with the USDOC’s investigation, such that a rate based on adverse facts available could have been applied even if they were not part of the China-government entity.
- Imports of Chinese merchandise from firms that are subject to the China-government entity rate for which there is no evidence that they failed to cooperate with USDOC’s investigation. This fourth category is the only category that would potentially result in any nullification or impairment based on the DSB recommendations related to the SRP and the use of a China-government entity rate.

36. Similarly, for the three investigations and one administrative review for which the panel made findings concerning the USDOC’s use of the alternative, average-to-transaction comparison methodology and “zeroing,” only certain companies were assigned antidumping duty rates found to be WTO-inconsistent. Those rates can be isolated and the level of nullification or impairment resulting from their maintenance following the expiration of the RPT can be estimated accurately without incorrectly assuming, as China does, the total withdrawal of the U.S. antidumping measures.

³² Chinese Methodology Paper, para. 24.

2. The Correct Counterfactual is Modification of the WTO-Inconsistent U.S. Antidumping Duty Measures To Eliminate the WTO-Inconsistencies Found by the DSB, Not the Total Withdrawal of the Antidumping Duty Measures

37. At its most basic level, the calculation of the level of nullification or impairment from the disputed measures requires a comparison between the current value of exports of each product from China to the United States and the value of exports from China that could be expected if the United States had complied with the DSB’s recommendations following the expiration of the RPT.

38. China appears to agree. In its methodology paper, China explains that the “question that must be answered [in this proceeding] is what would have been the value of imports from China in 2017 ‘but for’ the United States continued imposition of the WTO inconsistent measures.”³³ Regarding the baseline of the counterfactual, China selected 2017.³⁴

39. In this proceeding, the correct counterfactual is the estimated value of exports of relevant products from China to the United States if the WTO-inconsistent U.S. antidumping duty measures were brought into compliance with U.S. WTO obligations, holding all other factors constant. The level of “nullification or impairment” to China is the difference between the value of China’s exports to the United States as reflected in the 2017 trade data, and the estimated export value under the counterfactual scenario.

40. In other words, for each of the 13 products subject to “as applied” findings and for each of the 12 products China has identified in connection with the “as such” findings, how many additional exports from China would enter the United States under the separate duty rate (the rate that applies to what we call Group 2) if the presumption of a China-government entity were eliminated? As discussed above, China’s methodology paper applies an incorrect counterfactual. The key assumption in China’s counterfactual is the removal of all antidumping duties, even the U.S. antidumping duties that were not found to be WTO-inconsistent. Under the correct counterfactual, however, those firms that are subject to the China-government entity rate and did not fail to cooperate would, instead, be assigned the separate duty rate. The correct estimate of the level of nullification or impairment is the difference in the value of trade that would be induced by changing—if, in fact, there were a difference between the rate assigned the China government entity and separate-rate respondents—the rate for these firms only. For most cases, this represents a small share of imports from China at any given period. To illustrate, we divide Chinese imports into four groups:

Group 1: Chinese imports from firms to which individual duty rates apply;

Group 2: Chinese imports from firms that were not individually examined yet received what we will label as a “separate duty rate”

³³ China’s Methodology Paper, para. 74.

³⁴ China’s Methodology Paper, para. 54.

(that is, a rate separate from the rate assigned to the China-government entity);

Group 3: Chinese imports from firms that are subject to the China-government entity antidumping duty rate for which there is evidence that they failed to cooperate with the USDOC's investigation, such that a rate based on adverse facts available could have applied even if they were not part of the China-government entity; and

Group 4: Chinese imports from firms that are subject to the China-government entity antidumping duty rate for which there is no evidence that they failed to cooperate with the USDOC's investigation.

41. Under the correct counterfactual, the only modification is that duties on Group 4 imports are changed from the rate assigned to the China-government entity to a separate duty rate.³⁵ With the exception of certain antidumping duty rates determined using the alternative, average-to-transaction comparison methodology with “zeroing,” which are addressed below in section III.C.5, all other antidumping duties remain unchanged.

C. The Correct Methodology for Determining the Level of Nullification or Impairment Must Be Determined Case by Case

42. The key issue in this proceeding is the impact on trade flows of the maintenance of the WTO-inconsistent U.S. antidumping duty measures following the expiration of the RPT. To correctly estimate the impact on Chinese trade flows, each case must be analyzed independently to determine the most appropriate methodology to calculate an estimate of the level of nullification or impairment with precision. Based on the facts and the available data, it is appropriate for the Arbitrator to use three different methodologies to estimate the level of nullification or impairment for the underlying cases at issue in this proceeding.

43. First, in cases where the rate assigned to the China-government entity and the separate rate respondents is the same, the level of nullification or impairment is zero because shifting from the China-government entity's rate to a separate duty rate in these cases would not result in any reduction of the antidumping duty. That is the case for the antidumping measures on corrosion resistant steel and diamond sawblades.

44. Second, an Armington-based imperfect substitutes partial equilibrium model is used to estimate the trade effect of the tariff reduction that is assumed in the correct counterfactual (*i.e.*, the change in the value of exports of the product from China to the United States given the reduction of the antidumping rate applied to Group 4 companies assigned the China-government entity rate to a separate rate). In these cases, there is a reasonable level of U.S. imports from

³⁵ For greater clarity, the rate applied to Group 3 imports would remain the same – the rate determined on the basis of adverse facts available – but the basis for assigning that rate would change, *i.e.*, the rate would be assigned due to their failure to cooperate, not the presumption that they are part of the China-government entity.

China under the China-entity rate relative to total imports from China under all other rates. We explain in detail the Armington-based model in section III.C.3 below. We estimate the level of nullification or impairment using this approach for the following products: PET film, carrier bags, coated paper, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, tires, and washers.

45. Third, we apply a formula-based approach to the cases where the share of U.S. imports assigned the China-entity rate is minimal because an economic model, such as an Armington-based imperfect substitutes partial equilibrium model, cannot be used to produce reliable estimates. For these cases, we use available data to calculate the share of U.S. imports during the original period of investigation for either Group 4 firms alone, or for Group 3 and Group 4 firms combined, and we apply that share to total U.S. imports from China subject to the antidumping duty in 2017. The determination in using either Group 4 alone, or Group 3 and Group 4 combined, depends on data availability. This method almost certainly overstates the level of nullification or impairment, as it is unlikely that Group 4 firms with the China-entity rate, or a high separate rate, would retain the same market share they had during the period of investigation because other companies would have received lower duty rates and would be at a competitive advantage. Combining Group 3 and Group 4 companies also overstates the level of nullification or impairment since the WTO-inconsistent measure only applies to Group 4 firms. Nevertheless, given the facts of these cases, data availability, and related constraints on the use of an economic model, this is a reasonable approach to estimating the level of nullification or impairment in these cases. We estimate the level of nullification or impairment using this approach for the following products: wood flooring, oil country tubular goods (“OCTG”), crystalline silicon photovoltaic (“CSPV”) cells, and off-the-road tires.

46. Regarding the USDOC’s use of “zeroing” under the alternative, average-to-transaction comparison methodology in two original antidumping investigations (OCTG and steel cylinders) and one administrative review proceeding (PET film), we explain why the level of nullification or impairment is zero. For the coated paper investigation, we estimate the level of nullification or impairment using the Armington-based imperfect substitutes partial equilibrium model.

47. The following sections discuss and apply the approaches described above to the Chinese products for which the United States has useable data at this time.

1. Complying with the DSB Recommendations Concerning U.S. Antidumping Duty Measures on Corrosion-Resistant Steel and Diamond Sawblades Would Not Result in Any Increase in the Value of Exports of Those Products from China to the United States; The Level of Nullification or Impairment is Zero

48. The evidence demonstrates that modifying the WTO-inconsistent U.S. antidumping duty measures on corrosion-resistant steel and diamond sawblades from China to bring them into compliance with the DSB recommendations would not result in any increase in the value of exports of corrosion-resistant steel and diamond sawblades from China to the United States. Accordingly, the correct level of nullification or impairment from these measures is zero.

a. The DSU Permits the Arbitrator to Find that a Measure Causes No Nullification or Impairment

49. As an initial matter, the United States recalls that Article 3.8 of the DSU provides that:

In cases where there is an infringement of the obligations assumed under a covered agreement, the action is considered *prima facie* to constitute a case of nullification or impairment. This means that there is normally a presumption that a breach of the rules has an adverse impact on other Members parties to that covered agreement, and in such cases, it shall be up to the Member against whom the complaint has been brought to rebut the charge.³⁶

50. Article 3.8 of the DSU plainly provides for the possibility that the Member concerned may rebut the presumption of the existence of nullification or impairment by putting forth evidence that a breach of WTO obligations does not have an adverse impact on the complaining Member.³⁷ As the arbitrator found in *EC – Bananas III (US) (Article 22.6 – EC)*:

[A]n initial decision on whether or not to raise a complaint is necessarily the result of a subjective and strategic consideration from the individual perspective of a Member. However, a decision on whether the assertion of nullification or impairment by an individual Member was warranted and justified in light of WTO law is a different decision, taken by a panel or the Appellate Body from the objective benchmark of the agreements covered by the WTO.

The *presumption* of nullification or impairment in the case of an infringement of a GATT provision as set forth by Article 3.8 of the DSU cannot in and of itself be taken simultaneously as *evidence* proving a particular level of nullification or impairment allegedly suffered by a Member requesting authorization to suspend concessions under Article 22 of the DSU at a much later stage of the WTO dispute settlement system. The review of the level of nullification or impairment by Arbitrators from the objective benchmark foreseen by Article 22 of the DSU, is a separate process that is independent from the finding of infringements of

³⁶ DSU, Art. 3.8 (emphasis added).

³⁷ See also DSU, Art. 23.2(a). Article 23.2(a) provides that “...Members shall: (a) not make a determination to the effect that a violation has occurred, that benefits have been nullified or impaired or that the attainment of any objective of the covered agreements has been impeded, except through recourse to dispute settlement in accordance with the rules and procedures of this Understanding, and shall make any such determination consistent with the findings contained in the panel or Appellate Body report adopted by the DSB or an arbitration award rendered under this Understanding”. Article 23.2(a) distinguishes between a Member’s determination “to the effect that a violation has occurred” and a Member’s separate determination “that benefits have been nullified or impaired,” as well as a third type of determination “that the attainment of any objective of the covered agreements has been impeded”.

WTO rules by a panel or the Appellate Body. As a result, a Member’s potential interests in trade in goods or services and its interest in a determination of rights and obligations under the WTO Agreements are each sufficient to establish a right to pursue a WTO dispute settlement proceeding. However, a Member’s legal interest in compliance by other Members does not, in our view, automatically imply that it is entitled to obtain authorization to suspend concessions under Article 22 of the DSU.³⁸

51. The arbitrator in *US – 1916 Act (EC) (Article 22.6 – US)* “agree[d] with the arbitrators in *EC – Bananas III (US) (Article 22.6 – EC)* that the *presumption* of nullification or impairment, as provided in Article 3.8 of the DSU, by no means provides evidence of the *level* of nullification or impairment sustained by the Member requesting authorization to suspend obligations.”³⁹ The arbitrator went on, however, to reason that:

[T]he fact that the presumption does not automatically translate to a given level does not mean that the level is “zero.” The original Panel determined that the 1916 Act “nullifies and impairs benefits accruing to the European Communities.” In light of this conclusion, the level must be something greater than “zero”, and it is a contradiction in terms to suggest otherwise.⁴⁰

52. The reasoning of the arbitrator in *US – 1916 Act (EC) (Article 22.6 – US)* is flawed. As noted above, Article 3.8 of the DSU expressly provides for the possibility that the Member concerned may “rebut” the “presumption that a breach of the rules has an adverse impact on other Members parties to that covered agreement.” It follows logically that, if the Member concerned successfully rebuts that presumption, the only conclusion would be that there is no nullification or impairment, despite the existence of a WTO-inconsistent measure.

53. Additionally, nothing in Article 3.8 of the DSU, which is one of the “General Provisions” of the DSU, limits the opportunity of the Member concerned to make such a rebuttal only during the original panel phase of a dispute settlement proceeding. The more logical time for a Member concerned to make such a rebuttal would be in the context of an arbitration under Article 22.6 of the DSU, wherein the question of the level of nullification or impairment – and indeed, the question of the existence of any level of nullification or impairment at all following the expiration of the RPT – is placed squarely before the decision maker that is tasked by the DSU with evaluating that question and the question of the level of suspension – *i.e.*, the DSU Article

³⁸ *EC – Bananas III (US) (Article 22.6 – EC)*, paras. 6.9-6.10 (emphasis added).

³⁹ *US – 1916 Act (EC) (Article 22.6 – US)*, para. 5.50 (emphasis in original).

⁴⁰ *US – 1916 Act (EC) (Article 22.6 – US)*, para. 5.50.

22.6 arbitrator.⁴¹ As the arbitrators explained in *EC – Hormones (Canada) (Article 22.6 – EC)* and *EC – Hormones (US) (Article 22.6 – EC)*:

[O]ur task of estimating nullification and impairment is very different from that of a panel examining the WTO conformity of certain measures. Once a panel has found a WTO inconsistency, it can presume – pursuant to Article 3.8 of the DSU – that the inconsistency has caused nullification and impairment. On that ground the panel can give redress to the winning party under Article XXIII of GATT 1994 or corresponding provisions in other WTO agreements. What normally counts for a panel is competitive opportunities and breaches of WTO rules, not actual trade flows. A panel does not normally need to further assess the nullification and impairment caused; it can presume its existence. We, in contrast, have to go one step further. We can take it for granted here that the hormone ban is WTO inconsistent. What we have to do is to estimate the nullification and impairment caused by it (and presumed to exist pursuant to Article 3.8 of the DSU). To do so in the present case, we have to focus on trade flows. We must estimate trade foregone due to the ban's continuing existence beyond [the expiration of the RPT on] 13 May 1999.⁴²

It follows from this reasoning that, if no trade is foregone due to a WTO-inconsistent measure's continuing existence beyond the expiration of the RPT, *i.e.*, if the estimate of the trade foregone is zero, then the correct conclusion is that the level of nullification or impairment is zero.

54. Furthermore, the factual circumstances related to a WTO-inconsistent measure's impact on the complaining Member might change over time, including after a panel report is circulated and before a suspension request is made under Article 22.2 of the DSU. In an arbitration under

⁴¹ We note that the findings of the original panel in *US – 1916 Act (EC) (Panel)* concerning the level of nullification or impairment were limited to the following brief discussion at paras. 6.226-6.227 of the panel report:

The EC claims that, by violating Articles XVI:4 of the Agreement Establishing the WTO, Articles VI:1 and VI:2 of the GATT 1994, Articles 1, 2.1, 2.2, 3, 4 and 5.5 of the Anti-Dumping Agreement and Article III:4 of the GATT 1994, the United States has nullified or impaired benefits accruing to the EC under those agreements.

We have found that the 1916 Act as such violates Article VI:1 and VI:2 of the GATT 1994, as well as Articles 1, 4 and 5.5 of the Anti-Dumping Agreement. We also concluded that, by not ensuring the conformity of the 1916 Act with its obligations as provided under the above-mentioned provisions, the United States violates Article XVI:4 of the Agreement Establishing the WTO. Since Article 3.8 of the DSU provides that “In cases where there is an infringement of the obligations assumed under a covered agreement, the action is considered *prima facie* to constitute a case of nullification or impairment” and as the United States has adduced no evidence to the contrary, we conclude that the 1916 Act nullifies or impairs benefits accruing to the European Communities under the WTO Agreement.

⁴² *EC – Hormones (Canada) (Article 22.6 – EC)*, para. 41 (emphasis added; citations omitted); *EC – Hormones (US) (Article 22.6 – EC)*, para. 42 (emphasis added; citations omitted).

Article 22.6 of the DSU, it is incumbent upon the arbitrator to establish the level of nullification or impairment following the end of the RPT, so as to ensure that the level of suspension authorized by the DSB does not exceed the level of nullification or impairment. As the arbitrator in *US – 1916 Act (EC) (Article 22.6 – US)* found, “any suspension of obligations in excess of the level of nullification or impairment would be punitive”, and “punitive sanctions are prohibited by Article 22.4.”⁴³

55. Accordingly, it is necessary for the Arbitrator to determine in this proceeding the ongoing trade effects of the U.S. antidumping duty measures on corrosion-resistant steel and diamond sawblades from China (using 2017 as the baseline for the counterfactual). China suggests in its methodology paper, the “question that must be answered [in this proceeding] is what would have been the value of imports from China in 2017 ‘but for’ the United States continued imposition of the WTO inconsistent measures.”⁴⁴ By this, China uses 2017 as a proxy (presumably for reasons of data availability) for the ongoing trade effects caused by the maintenance of WTO-inconsistent measures beyond the expiry of the reasonable period of time in August 2018. For purposes of the counterfactual in this submission, the United States has also used 2017 data.

56. As explained in the following section, evidence indicates that the value of China’s exports of corrosion-resistant steel and diamond sawblades to the United States would not have increased at all if the United States had complied with the DSB recommendations following the expiration of the RPT.

b. The Evidence Demonstrates that the Level of Nullification or Impairment from the Antidumping Measures on Corrosion-Resistant Steel and Diamond Sawblades is Zero

57. The evidence demonstrates that bringing the U.S. antidumping duty measures on corrosion-resistant steel and diamond sawblades from China into compliance would result in no increase at all in the value of corrosion-resistant steel or diamond sawblades exported from China to the United States.

58. As noted earlier, in cases where the China-entity rate and a separate duty rate are the same, the level of nullification or impairment is zero because the counterfactual scenario in which the USDOC undertook a redetermination and changed the WTO-inconsistent the rate for companies that form part of the China-government entity—an entity based on a presumption found to be WTO-inconsistent—from the China-government entity rate to the separate duty rate determined for those separate-rate respondents subject to the relevant proceeding, would, in these cases, not result in any reduction of the antidumping duty rate. In *Corrosion-Resistant Steel*, the China-government entity rate is 199.43 percent and the separate rate is also 199.43 percent.⁴⁵ In

⁴³ *US – 1916 Act (EC) (Article 22.6 – US)*, para. 5.22.

⁴⁴ China’s Methodology Paper, para. 74.

⁴⁵ See Exhibit USA-5

Diamond Sawblades, in 2017, the China-government entity rate is 82.03 percent and the separate rate also is 82.03 percent.⁴⁶

59. Accordingly, the level of nullification or impairment is zero.

2. An Armington-Based Imperfect Substitutes Partial Equilibrium Model is the Appropriate Method for Estimating the Level of Nullification or Impairment Resulting from the Maintenance Following the Expiration of the RPT of the WTO-Inconsistent U.S. Antidumping Measures on Aluminum Extrusions, Shrimp, Steel Cylinders, Woven Ribbons, PET Film, Carrier Bags, Coated Paper, Steel Line and Pressure Pipe, Welded Carbon Steel Pipe, Welded Carbon Steel Line, Steel Nails, Stainless Steel Sheet and Strip, Cast Iron Pipe Fittings, Copper Pipe and Tube, Cold Rolled Steel Flat Products, Truck Tires, and Washers

60. For seventeen products – aluminum extrusions, shrimp, steel cylinders, woven ribbons, PET film, carrier bags, coated paper, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, truck tires, and washers – an Armington-based imperfect substitutes partial equilibrium model is the appropriate tool with which to estimate the level of nullification.

61. China recognizes that an “elasticities style trade model” or “a partial equilibrium model” “could be used for calculating” the level of nullification or impairment.⁴⁷ Indeed, China characterizes such an approach as “an excellent short-run quantitative model.”⁴⁸ China asserts, though, that partial equilibrium analysis is “ill-suited for the particular circumstances of this dispute” due to purported data availability issues.⁴⁹ As explained below, for aluminum extrusions, shrimp, steel cylinders, woven ribbons, PET film, carrier bags, coated paper, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, truck tires, and washers, the necessary data are available and partial equilibrium analysis is the appropriate approach.

62. Despite China’s suggestion that “many policies have been found to be inconsistent with WTO rules”⁵⁰ and “various and complicating issues”⁵¹ support the use of China’s flawed approach – discussed further below in section IV – the analysis required in this proceeding actually is quite simple. Antidumping duty measures are tariffs. The simplest description of the

⁴⁶ See Exhibit USA-5

⁴⁷ China’s Methodology Paper, para. 47.

⁴⁸ China’s Methodology Paper, para. 48.

⁴⁹ China’s Methodology Paper, para. 48.

⁵⁰ China’s Methodology Paper, para. 42.

⁵¹ China’s Methodology Paper, para. 46.

correct counterfactual scenario here is that the tariffs imposed by the United States are assumed to be reduced. Partial equilibrium analysis is, to use China’s term, an “excellent”⁵² tool for modeling the trade effects of a tariff reduction.

63. Under correct economic theory, the effect of the reduction or removal of the WTO-inconsistent U.S. antidumping duties applied to aluminum extrusions, shrimp, steel cylinders, woven ribbons, PET film, carrier bags, coated paper, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, truck tires, and washers from China depends on the substitutability between (1) the domestic like product (the product made in the United States), (2) subject imports (the product imported from China that is subject to the WTO-inconsistent antidumping duty), (3) non-subject imports from China (the product imported from China that is not subject to the WTO-inconsistent antidumping duty), and (4) non-subject imports from the rest of the world (the product imported from countries other than China). To properly measure the effect of the reduction of the antidumping duties on aluminum extrusions, shrimp, steel cylinders, woven ribbons, PET film, carrier bags, coated paper, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, truck tires, and washers from China, one would need to use for each product an economic model that accounts for the substitution effects on all four of these varieties.

64. An example of such a model – an Armington-based imperfect substitutes partial equilibrium model – that would be appropriate to use can be found in a 2017 paper by Ross Hallren and David Riker.⁵³ The Hallren and Riker paper provides a convenient framework to undertake a partial equilibrium analysis of the trade effects of modifying import tariffs where the imported and domestic goods are imperfect substitutes.⁵⁴ Indeed, the Hallren and Riker paper provides as an “illustrative application” an example of modeling the effects of “a reduction in the import ad-valorem tariff applied to subject imports from 5 to 0 percent,” which corresponds to the modification of duties for purposes of this discussion.⁵⁵ The partial equilibrium model in the Hallren and Riker paper is based on the Armington approach to trade, where products are differentiated by source countries and consumers view products from different countries as imperfect substitutes.⁵⁶ As explained in *A Practical Guide to Trade Policy Analysis*, “most simulation models use the ‘Armington assumption’ whereby varieties of goods are differentiated by country of origin (Armington, 1969).”⁵⁷

⁵² China’s Methodology Paper, para. 48.

⁵³ See R. Hallren and D. Riker, An Introduction to Partial Equilibrium Modeling of Trade Policy, Economic Working Paper Series (Working Paper 2017-07-B), U.S. International Trade Commission, July 2017 (“Hallren and Riker (2017)”) (Exhibit USA-15).

⁵⁴ See Hallren and Riker (2017).

⁵⁵ See Hallren and Riker (2017), pp. 12-15.

⁵⁶ See Hallren and Riker (2017), pp. 4-5. See also, e.g., WTO & UN (2012), *A Practical Guide to Trade Policy Analysis*, pp. 104, 144-146.

⁵⁷ WTO & UN (2012), *A Practical Guide to Trade Policy Analysis*, p. 144 (emphasis added).

65. The U.S. version of the model assumes that there are four varieties of products in the industry that are imperfect substitutes in demand. The four varieties are the domestic product, non-subject imports from rest of world, non-subject imports from China, and subject imports from China. These four varieties are denoted by the subscripts d , n_{row} , n_c , and s . Subject imports are those directly affected by the change in trade policy (e.g., the imports experiencing the reduction in tariff rates), and non-subject imports are all other imports.

66. As the Hallren and Riker paper explains, all source varieties are imperfect substitutes and consumers substitute between each variety at a constant rate (σ), which is the Armington elasticity. The Hallren and Riker paper points out that the Armington elasticity “is a key element in the model” because it tells us how sensitive consumers are to changes in the relative prices of each of the source varieties.

67. This submission does not reproduce the full explanation of the Armington-based imperfect substitutes partial equilibrium model that is presented in the Hallren and Riker paper. It suffices to say that:

When the tariff is removed, the supply of subject imports increases, and the market price of subject imports falls. Because the [four] varieties are substitutes, the decline in the market price of subject imports causes consumers to buy more of the subject imports in lieu of the other varieties, and this is reflected as a reduction in demand for the domestic and non-subject varieties. The model predicts that removing a tariff on subject imports will result in a decline in the market price of all varieties, an increase in quantity demanded of subject imports, and a decrease in quantity demanded of the domestic product and non-subject imports.⁵⁸

68. The model detailed in the Hallren and Riker paper permits the estimation of the magnitudes of the changes in the prices of the four varieties of products, the industry’s overall price index, and the quantities of the products as a result of a reduction in the *ad valorem* tariff on subject imports. The goal of the analysis is to quantify these changes given information on the duties and the initial values of trade and market shares in the respective industries in this proceeding.

69. The following sections discuss the calculations that would be involved in properly applying an Armington-based imperfect substitutes partial equilibrium model and the correct data inputs that would be used in the model. The United States then presents the level of nullification or impairment that would result from the application of the model.

a. Calculations That Would Be Involved in Properly Applying an Armington-Based Imperfect Substitutes Partial Equilibrium Model

⁵⁸ Hallren and Riker (2017), p. 12.

70. As explained above, the appropriate model for analyzing the effects of trade policy changes in the respective product markets would be an Armington-based partial equilibrium model that assumes four varieties of products that are imperfect substitutes. In this model, consumers substitute between each variety at a constant rate, σ , the Armington elasticity, which demonstrates how sensitive consumers are to changes in the relative prices of the four varieties.

71. As shown in the Hallren and Riker paper (but with modifications for a four-source modeling framework), with simple assumptions on demand and supply and allowing for equilibrium in each market, the correct partial equilibrium model is based on the following non-linear simultaneous system of market clearing equations, (1)-(5)⁵⁹ and an industry demand equation:

$$a_d (p_d)^{\varepsilon_d} = Q b_d \sigma \left(\frac{p_d}{P}\right)^{-\sigma} \quad (1)$$

$$a_s \left(\frac{p_s}{t_s}\right)^{\varepsilon_s} = Q b_s \sigma \left(\frac{p_s}{P}\right)^{-\sigma} \quad (2)$$

$$a_{nc} (p_{nc})^{\varepsilon_{nc}} = Q b_{nc} \sigma \left(\frac{p_{nc}}{P}\right)^{-\sigma} \quad (3)$$

$$a_{nrow} (p_{nrow})^{\varepsilon_{nrow}} = Q b_{nrow} \sigma \left(\frac{p_{nrow}}{P}\right)^{-\sigma} \quad (4)$$

$$Q = Y_0 P^\theta \quad (5)$$

72. The relevant variables in the equations above are defined as follows: Q is the aggregate industry output quantity; P is the price index of the product; p_d , p_s , p_{nc} , and p_{nrow} are consumer prices for the four varieties of products; the producer prices of the domestic product and non-subject imports are p_d , p_{nc} , and p_{nrow} ; $\frac{p_s}{t_s}$ is the producer price of the subject import, where t_s is the trade cost factor, defined as one plus the *ad valorem* equivalent rate of the tariff; θ is the price elasticity of total demand; σ is the elasticity of substitution; ε_d , ε_s , ε_{nc} , and ε_{nrow} are elasticities of supply; and Y_0 is the initial equilibrium level of aggregate industry expenditure allocated to this category of goods.⁶⁰

73. Also in the equations above, a_d , a_s , a_{nc} , and a_{nrow} represent factors that shift the supply curve, while b_d , b_s , b_{nc} , and b_{nrow} are factors that shift the demand curves.⁶¹ These demand and supply shifters are calibrated to initial market data inputs.

74. Initial data on imports from subject and non-subject countries and the value of domestic production can be used to get the initial market shares of each of the varieties of the product.

⁵⁹ See Hallren and Riker (2017), pp. 6-7. Note that equations (1)-(4) presented here are based on the combination, respectively, of equations (1) and (5), (2) and (6), and (3) and (7) in the Hallren and Riker paper. The Hallren and Riker paper explains that equations (1)-(3) in their paper are demand curves and equations (5)-(7) in their paper are supply curves. In equilibrium, supply equals demand in each market, by definition.

⁶⁰ See Hallren and Riker (2017), pp. 6-8.

⁶¹ See Hallren and Riker (2017), pp. 6 and 7.

These baseline values along with the elasticities (supply, demand, and substitution) allow one to get the calibrated values of the parameters a_d , a_s , a_{nc} , and a_{nrow} ; b_d , b_s , b_{nc} , and b_{nrow} ; and Y_0 . These parameter values then would be used along with the elasticities to solve for price and quantity changes after the removal of the tariffs. The new value of trade therefore represents the value of trade but for the tariffs.

75. The resulting level of nullification or impairment would equal, for each product, the 2017 counterfactual value of U.S. imports from China minus the 2017 actual value of U.S. imports from China. This equation also can be expressed as $(v_s + v_{nc}) - v_o$, with v_s representing for each product the value of subject imports resulting from the application of the model, v_{nc} representing for each product the value of non-subject imports resulting from the application of the model, and v_o representing the 2017 actual total value of U.S. imports of the product from China.

b. Reduction of Tariff Rates on Subject Imports from the China-Entity Rate to the Separate Duty Rate

76. As explained in section III.B.2, U.S. imports from China can be divided into four groups. Under the correct counterfactual, “subject China” imports are U.S. imports of Chinese merchandise from firms that did not satisfy the separate rate test and thus are subject to the China-government entity rate (Group 4). For aluminum extrusions, shrimp, steel cylinders, woven ribbons, PET film, carrier bags, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, and truck tires, an Armington-based imperfect substitutes partial equilibrium model is the appropriate tool to estimate the effects of lowering duties on subject imports from China from the China-government entity rate to a separate duty rate. For cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, and washers, the USDOC did not assign a separate rate. Therefore, we use the Armington model to estimate the effects of lowering duties on subject imports from China from the China-government entity rate to zero, recognizing that this will lead to an overestimation of the impact. Finally, for coated paper, an Armington-based imperfect substitutes partial equilibrium model is the appropriate tool to estimate the effects of lowering duties on subject imports from China from the China-government entity rate to zero, which accounts for both the use of the SRP as well as the use of the alternative, average-to-transaction comparison methodology with “zeroing.”

77. To use the four-country model, we first need to define 2017 imports from subject imports versus non-subject imports from China. U.S. Customs and Border Protection (“CBP”) is able to compile U.S. import data for all products subject to an antidumping order. The United States has provided a table with CBP-sourced data for each of the 13 products subject to “as applied” findings and for each of the 12 products subject to “as such” findings that are discussed in China’s methodology paper.⁶² This CBP data is separated into total imports subject to an antidumping order as well as total imports subject to the China-government entity rate. Trade data under the China-government entity rate includes subject imports from China, but also includes non-subject imports. In our counterfactual, these non-subject imports fall under Group 3. As explained in section III.B.2, Group 3 includes imports from firms that are subject to the

⁶² Exhibit USA-21.

China-government entity antidumping duty rate for which there is evidence that they failed to cooperate with the USDOC's investigation, such that a rate based on adverse facts available could have applied even if they were not part of the China-government entity. Thus, it is likely that the level of subject imports from China determined using the CBP data is overstated, but the estimate is reasonable given data limitations.

78. Finally, for the modeling approach to provide a reasonable estimate of the level of nullification or impairment, the share of trade under the China-government rate compared to total imports under the antidumping order cannot be close to zero due to well-known characteristics of Armington-based models.⁶³ In this context, an appropriate minimal trade share for subject China imports is at least one percent of total imports. As explained above, if the share is lower than one percent, the United States uses a formula-based approach to calculate the level of nullification or impairment.

c. Correct Data Inputs that Would Be Used in Applying an Armington-Based Imperfect Substitutes Partial Equilibrium Model

79. The Hallren and Riker paper explains that the following data inputs would be used in applying the Armington-based imperfect substitutes partial equilibrium model that the paper describes:⁶⁴

- Domestic Shipments of Domestic Producers;
- Trade Value of Subject Imports from China;
- Trade Value of Non-Subject Imports from China;
- Trade Value of Non-Subject Imports from ROW;
- Supply Elasticity for Domestic Producers;
- Supply Elasticity for Subject Imports from China;
- Supply Elasticity for Non-Subject Imports from China;
- Supply Elasticity for Non-Subject Imports from ROW;
- Elasticity of Substitution within the Industry;
- Price Elasticity of Total Demand;

⁶³ M. Kuiper and F. van Tongeren, Using gravity to move Armington, Paper prepared for the Ninth Annual Conference on Global Economic Analysis in Addis Ababa, Ethiopia, June 2006

⁶⁴ Hallren and Riker (2017), p. 6.

Change in Tariff Rates on Subject Imports.

80. The following subsections discuss the sources of the data inputs that are used in the calculation of the levels of nullification or impairment using an Armington-based imperfect substitutes partial equilibrium model.

i. 2017 Domestic Shipment and Import Data

81. As explained in the Hallren and Riker paper, the model focuses on a single national market and the markets for the four varieties of products in the industry (m_d , m_s , m_{nc} , and m_{nrow}). For each product, we have provided domestic shipment and import share data, sourced from the USITC and CBP, that are used in the model to calculate the correct level of nullification or impairment.⁶⁵

ii. Elasticities of Supply

82. The USITC publishes a range of elasticities in its investigation reports. Parties in the proceedings (both U.S. and Chinese) comment on these elasticities, and these positions are taken into account when the USITC estimates the elasticities. The United States has used the midpoint of the range of elasticities of supply (ε_d , ε_s , ε_{nc} and ε_{nrow}) published by the USITC and presented that data for each product.⁶⁶ Contrary to China's assertion,⁶⁷ given the USITC's publication of determinations in sunset reviews, the elasticities data is no more than 4 years old for the following products: PET film, carrier bags, coated paper, stainless steel sheet and strip, copper pipe and tube, cold rolled steel flat products, truck tires, cast iron pipe fittings, shrimp, woven ribbons, aluminum extrusions, and washers.

iii. Elasticities of Substitution within the Industry

83. The United States has used the midpoint of the range of elasticity of substitution within the industry (σ) published by the USITC, presented for each product in Exhibit USA-16.

iv. Price Elasticity of Total Demand

84. The United States uses the midpoint of the range of U.S. demand elasticities (θ) reported by the USITC and presented in Exhibit USA-16.

v. Changes in the Tariff Rates on Subject Imports

85. As explained above in section III.B, the appropriate counterfactual in this proceeding is the reduction of the antidumping duty rate on Group 4 from the China-government entity rate to the separate rate, which has not been found to be WTO-inconsistent. The United States presents

⁶⁵ See Exhibit USA-13

⁶⁶ See Exhibit USA-16.

⁶⁷ China's Methodology Paper, para. 48.

the initial and final duty rates used to calculate the change in the antidumping duty rate on subject imports for each product in Exhibit USA-5.

d. Results of Armington-Based Model

86. As a result of applying the Armington-based model described above, the level of nullification or impairment from the maintenance following the expiration of the RPT of the U.S. antidumping duty measures on aluminum extrusions, shrimp, steel cylinders, woven ribbons, PET film, carrier bags, coated paper, steel line and pressure pipe, welded carbon steel, welded carbon steel line pipe, steel nails, stainless steel sheet and strip, cast iron pipe fittings, copper pipe and tube, cold rolled steel flat products, truck tires, and washers from China is no more than **\$19.72 million** per year. For these same products, China’s one-size-fits-all approach estimated the level of nullification or impairment to be **\$8,638 billion** annually. The following table summarizes the results of the application of the Armington-based model on a case-by-case basis, and China’s grossly overstated estimate of the level of nullification or impairment is presented for contrast:

Estimated Levels of Nullification or Impairment Armington-Based Model vs. China’s Estimate		
“As Applied” Cases	Nullification or Impairment	China Estimate (from Exh CH-5)
	(\$Millions)	(\$Millions)
<i>Aluminum Extrusions From the People’s Republic of China</i> (USDOC investigation number A-570-967)	0.02	700
<i>Certain Coated Paper Suitable for High-Quality Print Graphics Using Sheet-Fed Presses From the People’s Republic of China</i> (USDOC investigation number A-570-958)	0.16	53
<i>Certain Frozen and Canned Warmwater Shrimp From the People’s Republic of China</i> (USDOC investigation number A-570-893)	0.004	1,218
<i>High Pressure Steel Cylinders From the People’s Republic of China</i> (USDOC investigation number A-570-977)	0.12	13
<i>Narrow Woven Ribbons With Woven Selvedge From the People’s Republic of China</i> (USDOC investigation number A-570-952)	0.39	92
<i>Polyethylene Retail Carrier Bags From the People’s Republic of China</i> (USDOC investigation number A-570-886)	1.29	13

<i>Polyethylene Terephthalate Film, Sheet, and Strip From the People’s Republic of China</i> (USDOC investigation number A-570-924)	0.27	181
Total “As Applied”	2.25	2,270.0
“As Such” Cases	Damage Estimate	China Estimate (from Exh CH-13)
	(\$Millions)	(\$Millions)
<i>Non-Malleable Cast Iron Pipe Fittings from the People’s Republic of China</i> (A-570-875)	1.47	1
<i>Circular Welded Carbon Quality Steel</i> (A-570-910)	0.10	687
<i>Circular Welded Carbon Quality Steel Line Pipe</i> (A-570-935)	0.12	140
<i>Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe from the People’s Republic of China</i> (A-570-956)	0.39	117
<i>Seamless Refined Copper Pipe and Tube From the People’s Republic of China</i> (A-570-964)	1.60	673
<i>Certain Steel Nails from the People’s Republic of China</i> (A-570-909)	5.21	16
<i>Cold Rolled Steel Flat Products</i> (A-570-029)	0.09	690
<i>Truck Tires</i> , (A-570-016)	7.85	1,515
<i>Stainless Steel Sheet and Strip</i> (A-570-042)	0.03	214
<i>Large Residential Washers</i> (A-570-033)	0.61	2,315
Total “As Such”	17.47	6,368.0
Total “As Applied” and “As Such”	19.72	8,638.0

3. A Formula-Based Approach is the Appropriate Method for Estimating the Level of Nullification or Impairment from the U.S. Antidumping Measures on Wood Flooring, OCTG, CSPV Cells, and Off-the-Road Tires

87. Total U.S. imports under the China-government entity rate as a share of total U.S. imports from China under the order for wood flooring, OCTG, CSPV cells, off-the-road tires, and bedroom furniture was less than one percent in 2017.⁶⁸ That being the case, an Armington-based imperfect substitutes partial equilibrium model cannot reliably be used to estimate the level of nullification or impairment for these products.

88. In light of the facts of these cases and the evidence available, the most appropriate methodology to estimate the level of nullification or impairment for wood flooring, OCTG, CSPV cells, off-the-road tires, and bedroom furniture is a formula-based approach. A formula-based approach examines China's historical import share of the U.S. market for companies assigned the China-government entity rate for the five products prior to the imposition of the WTO-inconsistent antidumping duty measure and applies that market share to the total value of imports of the goods from China in 2017. This approach is consistent with the approach taken by arbitrators in past Article 22.6 proceedings and fits well with the evidence on record for these five products.

89. Where the relevant data were available, previous Article 22.6 arbitrators have used historical export or import levels to determine the level of nullification or impairment caused by a measure. In *EC – Hormones*, for example, the arbitrator calculated the level of nullification or impairment in respect of edible beef offal by: (1) considering average U.S. exports of the covered product in the three years preceding the import ban at issue; (2) making a downward adjustment based on changing preferences; (3) multiplying the estimated figure by the estimated price of the products; and (4) deducting the value of current imports.⁶⁹ In *EC – Bananas III*, the arbitrator calculated the effect of the EU measure based on the level of Ecuador's "best-ever exports," which occurred the year before the measure was enacted.⁷⁰ In *US – Gambling*, the arbitrator used the difference between the complaining Member's revenues from supplying the services affected by the challenged measure the year before the measure came into effect and the average actual annual revenue in the years following to calculate the level of nullification or impairment.⁷¹

90. A similar formula-based approach is appropriate in this proceeding because historical levels of U.S. imports of the five Chinese products are indicative of the level of nullification or impairment caused by the U.S. antidumping duty measure.

⁶⁸ Exhibit USA-21.

⁶⁹ *EC – Hormones (US) (Article 22.6 – EC)*, paras. 66-78; *EC – Hormones (Canada) (Article 22.6 – EC)*, paras. 57-67.

⁷⁰ *EC – Bananas III (Ecuador) (Article 22.6 – EC)*, para. 169.

⁷¹ *US – Gambling (Article 22.6 – US)*, paras. 3.177, 3.182, 3.184, 3.187 – 188.

91. The sections below explain and apply the formula-based approach for each of the five Chinese products, wood flooring, OCTG, CSPV cells, off-the-road tires, and bedroom furniture.
92. For the products for which the China-government entity rate trade share of total imports from China under the order was less than 1.0 percent (Off-the-Road Tires, OCTG, CSPV Cells, Wood Flooring, and Bedroom Furniture), the United States used a formula to estimate the level of nullification or impairment.
93. The United States uses the maximum share of imports that may have been assigned the China-government entity rate during the period of investigation (Group 3 and Group 4 companies). For OCTG and wood flooring, given the data available, the United States uses the estimated share of imports for Group 4 companies. The share is applied to total U.S. imports for the specified product under the antidumping order. The results are presented in Exhibit USA-24. The United States has reported this information for 11 of the 13 products that are subject to “as applied” findings, except for PET film and bedroom furniture. The United States is working diligently to provide the additional information for these two products, as well as for the 12 products that are subject to “as such” findings).
94. The United States calculated the level of trade during the period of investigation for the relevant HTS codes. It then calculated the share of trade covered by the mandatory respondents and the separate rate respondents. The remainder would be the maximum share covered by the China-government entity rate. As explained earlier, this would account for both Group 3 and Group 4 companies. Only a portion of this amount would fall under the Group 4 category for which the duty is lowered from the China-government entity rate to a separate duty rate. The maximum or estimated share is then applied to U.S. imports from China for the specified product in 2017 to determine the level of nullification or impairment.
95. The results using the maximum share represent a ceiling. Also, the formula-based approach assumes that these companies would retain the same market share in 2017 as in the period of investigation. This is not likely, to the extent other companies were assigned lower duty rates than companies assigned the China-government entity rate or a separate rate and would be more competitive and have a higher market share. The formula-based approach, therefore, overestimates of the level of nullification and impairment.
96. As noted above, there are two products where, based on available data, the USDOC was able to estimate the Group 4 category: OCTG and wood flooring. For these products, the USDOC calculated the share of companies that did not respond to the USDOC quantity and value (“Q&V”) questionnaire and would have correctly been assigned a rate based on adverse facts available, which was the basis on which the China-government entity rate was determined. The maximum share was then reduced by this amount.
97. The estimated levels of nullification or impairment resulting from the application of the formula-based approach are presented in the table below on a case-by-case basis:

Table Presenting Estimated Levels of Nullification or Impairment: Formula-Based Results

As Applied Cases	U.S. Imports from China in 2017 (under AD Order – Source: Customs) (\$Millions)	Maximum Share Covered by PRC-Wide Entity during Period of Investigation	Applicable Share Covered by WTO Determination	Imports from China under PRC-Wide Rate as a Share of Total U.S. Imports from China under the Order (Source: Customs)	Nullification or Impairment (\$Millions)	China Estimate (from EXH CH-5) (\$Millions)
<i>Certain New Pneumatic Off-The-Road Tires from the People’s Republic of China</i> (USDOC investigation number A-570-912)	[[***]]	43.1%		[[***]]	17.97	39
<i>Certain Oil Country Tubular Goods from the People’s Republic of China</i> (USDOC investigation number A-570-943)	[[***]]	35.6%	6.4%	[[***]]	0.15	1,593
<i>Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from the People’s Republic of China</i> (USDOC investigation number A-570-979)	[[***]]	36.5%		[[***]]	194.18	3,233
<i>Multilayered Wood Flooring From the People’s Republic of China</i> (USDOC investigation number A-570-970)	[[***]]	53.9%	20.1%	[[***]]	45.72	247
<i>Wooden Bedroom Furniture From the People’s Republic of China</i> (USDOC investigation number A-570-890)	[[***]]			[[***]]		924
Total As Applied	[[***]]				258.0	6,036.0

98. Accordingly, the level of nullification or impairment resulting from the U.S. antidumping duty measures on wood flooring, OCTG, CSPV cells, and off-the-road tires from China is no more than **\$258 million**. This contrasts to China’s estimate of **\$6.036 billion** for these four products.

4. Estimating the Level of Nullification or Impairment Related to Recommendations Adopted by the DSB Concerning the USDOC’s Use of the Alternative, Average-to-Transaction Comparison Methodology and “Zeroing” in Certain Proceedings

99. In the original dispute, China challenged, and the DSB adopted “as applied” recommendations concerning, the use of the alternative, average-to-transaction comparison methodology and “zeroing” in only three original investigations (*OCTG*, *Steel Cylinders*, and *Coated Paper*) and one administrative review (*PET Film*).⁷² The other antidumping proceedings at issue in this arbitration are not implicated by the findings related to the use of the alternative, average-to-transaction comparison methodology and “zeroing,” so there can be no nullification or impairment related to those other proceedings as a result of the findings on the average-to-transaction comparison methodology and “zeroing.”

100. Additionally, as explained below, the evidence establishes that there can be no nullification or impairment to China related to the recommendations adopted by the DSB concerning the USDOC’s use of the average-to-transaction comparison methodology and “zeroing” in the original antidumping investigation of steel cylinders and the USDOC’s use of “zeroing” in the third administrative review of PET film.

101. Finally, as explained below, with respect to the original antidumping investigation of coated paper from China, the level of nullification or impairment can appropriately be estimated using the Armington-based imperfect substitutes partial equilibrium model discussed above in section III.C.3.

a. Steel Cylinders

102. The level of nullification or impairment related to the USDOC’s use of the alternative, average-to-transaction comparison methodology and “zeroing” during the original antidumping investigation of steel cylinders from China is zero. With respect to the *Steel Cylinders* antidumping investigation, China only challenged the USDOC’s use of the alternative, average-to-transaction comparison methodology and “zeroing” with respect to the margin of dumping determined for BTIC, and BTIC is the only company for which there was an “as applied” finding concerning the use of the alternative, average-to-transaction comparison methodology and “zeroing.”⁷³ In response to a decision of the U.S. Court of International Trade, the USDOC revoked the antidumping measure with respect to BTIC effective August 27, 2017.⁷⁴ The USDOC took this action prior to the expiration of the RPT and there is nothing else for the United States to do to implement the DSB’s recommendations with respect to the findings related to the USDOC’s use of the alternative, average-to-transaction comparison methodology

⁷² See *US – Anti-Dumping Methodologies (China) (Panel)*, paras. 3.1.a, 3.1.b, 7.220, 7.239.

⁷³ See *US – Anti-Dumping Methodologies (China) (Panel)*, paras. 7.5-7.6.

⁷⁴ See *High Pressure Steel Cylinders From the People’s Republic of China: Notice of Court Decision Not in Harmony With Final Determination in Less Than Fair Value Investigation, Notice of Amended Final Determination Pursuant to Court Decision, Notice of Revocation of Antidumping Duty Order in Part, and Discontinuation of Fifth Antidumping Duty Administrative Review*, 82 Fed. Reg. 46,758 (October 6, 2017) (Exhibit USA-7).

and “zeroing” to determine the margin of dumping for BTIC in the *Steel Cylinders* antidumping investigation. Therefore, there is no nullification or impairment to China related to this finding.

b. PET Film Administrative Review

103. The level of nullification or impairment related to the USDOC’s use of “zeroing” during the third administrative review of the antidumping order on PET film from China is zero. With respect to the third administrative review of PET film, China only challenged the USDOC’s use of “zeroing” with respect to the margin of dumping determined for the DuPont Group, and the DuPont Group is the only entity for which there was an “as applied” finding concerning the use of “zeroing.”⁷⁵ However, the results of the third administrative review of PET film have been succeeded by the results of the fourth administrative review of PET film, which were published on July 2, 2014.⁷⁶ In the fourth administrative review, the USDOC assigned the DuPont Group a margin of dumping that was not determined using “zeroing.”⁷⁷ The antidumping rate applicable to the DuPont Group at the end of the RPT (and during the baseline year 2017) would not be changed as a result of any redetermination of the results of the third administrative review that are the subject of findings adopted by the DSB. Therefore, there can be no nullification or impairment following the expiration of the RPT related to this finding.

c. Coated Paper

104. In the *Coated Paper* antidumping investigation, the USDOC found that the average-to-transaction rate in the investigation for APP China was 7.62 percent, and the average-to-average rate (without “zeroing”) would have been *de minimis* ([***] percent).⁷⁸ Thus, there would not have been an antidumping duty imposed for APP China. The separate rate assigned by the USDOC was the APP China rate, which was determined using “zeroing.” That rate was applied as a separate rate in 2017.

105. The level of nullification or impairment resulting from the maintenance of the dumping rate determined using the average-to-transaction comparison methodology and “zeroing” following the expiration of the RPT can be estimated using the Armington-based imperfect

⁷⁵ See *US – Anti-Dumping Methodologies (China) (Panel)*, para. 7.227.

⁷⁶ *Compare Polyethylene Terephthalate Film, Sheet, and Strip From the People’s Republic of China: Notice of Court Decision Not in Harmony With Final Results of Administrative Review and Notice of Amended Final Results of Administrative Review Pursuant to Court Decision*, 80 Fed. Reg. 13,826 (March 17, 2015) (submitted to the original panel in this dispute as Exhibit CHN-479) (Exhibit USA-8) and *Polyethylene Terephthalate Film, Sheet, and Strip From the People’s Republic of China: Final Results of Antidumping Duty Administrative Review; 2011–2012*, 79 Fed. Reg. 37,715 (July 2, 2014) (Exhibit USA-9).

⁷⁷ See *Memorandum to Ronald K. Lorentzen from Christian March Subject: Decision Memorandum for Preliminary Results of 2011-2012 Antidumping Duty Administrative Review: Polyethylene Terephthalate Film, Sheet, and Strip from the People’s Republic of China* (December 18, 2013) (Exhibit USA-10); *Memorandum to Paul Piquado from Christian Marsh re: Polyethylene Terephthalate Film, Sheet, and Strip from the People’s Republic of China, Issues and Decision Memorandum for the Final Results of the 2011-2012 Administrative Review* (June 24, 2014) (Exhibit USA-11).

⁷⁸ See *US – Anti-Dumping Methodologies (China) (Panel)*, First Written Submission of the United States of America (Corrected Version May 13, 2015) (excerpted), para. 184 (Exhibit USA-12).

substitutes partial equilibrium model. Specifically, the model can be used to estimate the trade effect of a reduction from the WTO-inconsistent rate of 7.62 percent to zero percent for the non-China-government entity imports in 2017, and to model a reduction of the China-government rate to zero for the China-government entity shipments. The result provides the level of nullification or impairment related to this finding, which is no more than \$0.19 million.⁷⁹

106. As noted above, the Armington model estimates are based on initial values of domestic shipments, imports, change in duty rate, and demand, supply, and substitution elasticities. The data used in the Armington model for coated paper are presented in Exhibit USA-13, USA-16, and USA-5.

107. If the USDOC assigned facts available to any Chinese firms due to non-cooperation, this approach may overstate the level of nullification or impairment.

d. OCTG

108. In the *OCTG* antidumping investigation, the USDOC found that, for Chinese respondent TPCO, the margin of dumping calculated using the average-to-average comparison methodology was **[[***]]** percent, while the margin of dumping calculated using the average-to-transaction comparison methodology with “zeroing,” which is the WTO-inconsistent aspect of the measure, was 32.07 percent.⁸⁰ Thus, there still would have been an antidumping duty imposed for TPCO. The separate rate assigned by the USDOC was the TPCO rate, which was determined using “zeroing.” That rate appears to have been applied as the separate rate in 2017.

109. There is not a sufficient level of subject imports from China in 2017 for the United States to apply the Armington-based model for this product.⁸¹ Nevertheless, given the tariff modification that would apply in the counterfactual scenario is less than two percent, it is reasonable to assume that the impact on trade levels would be minimal following the expiration of the RPT.⁸²

D. Conclusion with Respect to the Level of Nullification or Impairment

110. For the reasons given above, the total level of nullification or impairment resulting from the U.S. antidumping measures at issue in this proceeding is no more than \$278 million annually, which is the sum of the estimates discussed in the preceding subsections.

⁷⁹ See USA-25.

⁸⁰ See Notice of Amended Final Determination of Sales at Less Than Fair Value and Antidumping Duty Order; *Certain Oil Country Tubular Goods from the People’s Republic of China*, 75 Fed. Reg. 28,551 (May 21, 2010) (Exhibit USA-14). See also *US – Anti-Dumping Methodologies (China) (Panel)*, First Written Submission of the United States of America (Corrected Version May 13, 2015) (excerpted), para. 185 (Exhibit USA-12).

⁸¹ See USA-21.

⁸² See Exhibit USA-24.

IV. THE LEVEL OF SUSPENSION OF CONCESSIONS OR OTHER OBLIGATIONS PROPOSED BY CHINA FAR EXCEEDS THE LEVEL OF NULLIFICATION OR IMPAIRMENT

111. Based on the evidence discussed in the preceding section, the level of nullification or impairment resulting from the U.S. antidumping duty measures on subject imports from China is no more than \$277.2 million. Thus, the level of suspension of concessions requested by China – **more than \$7 billion** – is not equivalent to the level of nullification or impairment.

112. As discussed above, this proceeding requires that each of the 25 proceedings specifically identified in China’s methodology paper⁸³ be separately analyzed to determine the best methodology to calculate the level of nullification or impairment. China appears to agree with the U.S. approach, for China implies in its methodology paper that a one-size-fits-all economic approach is not suitable in this proceeding.⁸⁴ Yet, China proposes one economic approach to analyze the trade effects related to each of the 25 proceedings that it discusses. An examination of China’s proposed approach provides further proof that China’s requested level of suspension is not equivalent to the level of nullification or impairment.

113. As described in section IV.A below, China proposes an economic methodology that is of no use to the Arbitrator because China’s approach is inappropriate for the facts of this proceeding and cannot account for the impact of antidumping duty margins on trade flows, which is the key issue in this proceeding. China compounds its methodological error by relying on false assumptions and incorrect data to implement its approach.

A. China Grossly Overstates the Level of Nullification or Impairment Because China’s Proposed Approach Is Not Appropriate, It Is Premised on False Assumptions, and It Is Based on Incorrect Data Inputs

114. As discussed below, China’s proposed level of suspension – \$7.043 billion annually – grossly overstates the level of nullification or impairment because it is calculated using a deeply flawed economic approach. As the United States will explain, China’s approach, the difference-in-differences (“DID”) tabular methodology, is not appropriate for the facts of this proceeding, it is premised on false assumptions, and it is based on incorrect data inputs.

⁸³ China identified 13 antidumping duty orders in connection with its “as applied” claims concerning the Single Rate Presumption and 4 of those 13 in connection with its “as applied” claims concerning use of the alternative, average-to-transaction comparison methodology and the use of “zeroing” in conjunction with that alternative comparison methodology in calculating a dumping margin. Also, China specifically identified and analyzed another 12 antidumping duty orders in connection with its “as such” claims concerning the Single Rate Presumption. China Methodology Paper, para. 10.

⁸⁴ China’s Methodology Paper, para. 49 (noting that “The precise econometric specification would vary from dispute to dispute; in some disputes a reduced form approach (such as a gravity model) might be appropriate and in other disputes formal modeling of demand and supply conditions would be feasible) and para. 50 (noting that: “The number and variety of individual cases underlying this dispute make formal econometric modeling infeasible.”).

1. China’s DID Tabular Methodology is Not Appropriate

115. China uses a DID tabular methodology to calculate its proposed level of nullification or impairment. To produce a meaningful result, DID tabular methodology must be appropriate to the task at hand. In this proceeding, tabular DID methodology is inappropriate because China used flawed control groups, incorrect metric and data inputs, and did not apply the critical assumptions required.

116. China argues that the DID methodology has been widely used in economic and public policy studies, including trade policy applications.⁸⁵ While DID methodology is well-established in the field of economics, China’s implementation of DID falls short by constructing inappropriate control groups and by using false assumptions. To produce appropriate results, DID tabular methodology must use relevant control groups and reasonable assumptions, which, as we explain below, China does not.

117. Moreover, half of the values that contribute to China’s estimation of the level of nullification or impairment are not even the result of DID analysis. China effectively ignores the DID methodology in carrying out what it refers to as “DID growth.” Instead, China applies an informal approach without econometric basis.

118. The idea behind DID methodology is to design an economic environment that is comparable to a randomized, double-blind laboratory study in which the effect of a “treatment” is evaluated based on the difference between outcomes of firms that received it (in China’s methodology paper, the “treatment group”) and those that did not (the “comparison” or “control” group). In short, DID methodology simplifies economic phenomena. Analysts who use DID, however, make an attempt to define treatment and comparison groups so that they closely approximate conditions in which the treatment (here, U.S. antidumping duties) can be considered randomly assigned relative to a comparison group that faces identical conditions except for the treatment. For instance, Persson (2001) and Fotopoulos and Psallidas (2009), which China cites as references in an attempt to buttress its approach, use highly sophisticated econometric matching techniques to design comparable control groups and demonstrate their validity.⁸⁶ Thus, it is widely recognized that the construction of a relevant comparison group is critical for DID methodology to provide accurate results.

119. Besides failing to meet DID conceptual requirements, China’s implementation of the DID methodology is problematic for other reasons. For example, China purports to apply tabular DID to two metrics: trade levels and trade growth. China’s implementation of tabular DID to trade levels and trade growth, however, is fundamentally incorrect. We explain the deficiencies with China’s implementation in section IV.A.3 below.

⁸⁵ China’s Methodology Paper, para. 34.

⁸⁶ China’s Methodology Paper, para. 34 (noting “Persson (2001) uses DID to study the impact of currency unions and trade. Additional applications of DID to trade-related issues include Tayebi and Googerchian (2007), Fotopoulos and Psallidas (2009), and Álvarez and López (2011).”).

120. China argues that there are two common approaches to implementing the DID analysis.⁸⁷ The first, the tabular format, is the approach proposed by China. China dismisses the other approach, which uses linear regression and, if the critical assumptions required for DID were valid, would yield precise estimates and would therefore be more appropriate in this dispute. In fact, the papers referenced by China in its methodology paper⁸⁸ use linear regression rather than the tabular approach used by China.

121. China argues against the regression DID methodology by asserting that additional assumptions would need to be made about the nature of the treatment across the population group. This is not correct. Both the tabular and regression DID methodologies require that the same critical assumptions hold.⁸⁹ China argues that, under the same assumptions, both the tabular and regression methodologies should yield identical estimates of the DID effect.⁹⁰ In fact, China admits that, for some applications, the regression methodology is desirable because “other information can be included into the regression.”⁹¹ Nevertheless, China fails to provide a credible argument, or evidence, as to why the regression methodology is not appropriate for this dispute. Instead, China asserts that the regression methodology requires data that are not available for the antidumping orders at issue⁹² and that “the case-level data” in this proceeding lends itself to the tabular methodology.⁹³

122. China rejects the regression DID approach on the basis that the required data are not available. In fact, the regression model China presents in paragraph 37 of its methodology paper requires nothing that China does not use in the tabular methodology (and both the regression and tabular methodology require the same assumptions).⁹⁴ Moreover, contrary to China’s assertion, there is a wealth of data on trade, and drivers of trade, that is publicly available for several countries at regular time intervals.

123. The primary benefit of using a regression DID approach, as discussed at length by Angrist and Pischke in Chapter 5.2, is that it can be expanded to include variables that control for

⁸⁷ China’s Methodology Paper, para. 36.

⁸⁸ China’s Methodology Paper, para. 34.

⁸⁹ China’s Methodology Paper, para. 40.

⁹⁰ China’s Methodology Paper, para. 39.

⁹¹ China’s Methodology Paper, para. 39.

⁹² China’s Methodology Paper, para. 39.

⁹³ China’s Methodology Paper, para. 39.

⁹⁴ The only additional data required to estimate the regression model they present is annual U.S. imports data from entity i in year t ($outcome_{it}$) for additional years, which is easily accessible and publicly available. The $Treatment_i$ variable is a dummy variable equal to one if entity $i = China$. The variable $Post_t$ is a dummy variable equal to one if the import data corresponds to a year in which antidumping duties were imposed. China clearly has the necessary information to define $Post_t$, since it has demonstrated that it has knowledge of the years in which the antidumping duties were imposed.

time-varying characteristics of comparison groups.⁹⁵ All of the academic papers referenced by China use regression DID with additional controls.

124. Another advantage of regression methodology is that it allows the analyst to capture variation in “treatment intensity,”⁹⁶ which is the variation in the magnitude of antidumping duty margins. China should have taken advantage of this flexibility to calculate estimates of the level of nullification or impairment that account for variation in the share of trade affected by the antidumping duties, and to more rigorously account for cases where a countervailing duty is present.

125. China justifies using the tabular DID methodology by alluding to its “simplicity.”⁹⁷ While simplicity can be a virtue, it does not justify using the tabular DID methodology in this proceeding. The tabular DID methodology does not take into account the critical variable of interest in this proceeding: the differences between current U.S. antidumping duty rates and the U.S. antidumping duty rates under the counterfactual, and the impact of these differences on trade flows. China’s tabular methodology, therefore, is of no value to the Arbitrator because it cannot provide a correct estimation of the level of nullification or impairment. Furthermore, China attributes its estimate of the level of nullification or impairment solely to U.S. antidumping duties – even parts of the duties that have not been found to be WTO-inconsistent – and to countervailing duties. This attribution, however, is questionable because China does not adequately control for other factors that affect trade.

126. China asserts that it implements the DID methodology using two metrics: trade levels and trade growth. However, China inexplicably eliminates the differencing step when it carries out what it refers to as “DID growth.”⁹⁸ To calculate the level of nullification or impairment based on the growth metric, China simply calculates the percent growth in comparison group exports between the benchmark period and 2017, and then multiplies its benchmark period exports by that amount to arrive at what China’s methodology paper labels “‘What if’ Trade” in Tables 3, 5, and 8 of its methodology paper.⁹⁹ China’s estimate of the level of nullification or impairment is the difference between this value and actual 2017 exports.

127. Despite China’s assertion in footnote 46 of its methodology paper that this is the same as computing DID using the logarithm value of trade, in reality, China’s approach is a simple, informal calculation with no relationship to DID.

⁹⁵ See Exhibit CHN-18 in China’s Methodology Paper.

⁹⁶ Angrist and Pischke (2001), page 234

⁹⁷ China’s Methodology Paper, para. 39.

⁹⁸ See Tables 3, 5, and 8 in China’s Methodology Paper.

⁹⁹ See also para. 98 in China’s Methodology (noting that China applied a “control group’s actual growth in trade to China and then compare the ‘what if’: what if China had *grown* like the comparison group versus China’s actual trade. The growth based DID measure is particularly attractive when the level and/or capacity of the control group differs significantly from China.).

128. For these reasons, China’s proposed methodology for estimating the level of nullification or impairment is fundamentally flawed and cannot provide an accurate estimate of the level of nullification or impairment.

2. China’s Methodology is Premised on False Assumptions and Is Fundamentally Flawed as a Result

129. China’s tabular DID methodology cannot provide accurate estimates of the level of nullification or impairment because it is premised on false assumptions. According to economic literature, the following three key assumptions must hold in a tabular DID analysis: (1) parallel trends (the comparison group is composed of exports that would be expected to follow the same trends as China’s exports of the subject products in the absence of antidumping duties); (2) stability (the treated and comparison exports must remain the same over time); and (3) uniformity (the treatment or lack thereof (*i.e.*, antidumping duties) must be the same for all exports that comprise the treatment and control groups, respectively).¹⁰⁰

130. Together, the assumptions of parallel trends, stability, and uniformity mean that an appropriate comparison group must be comparable enough that its exports could reasonably be expected to follow the same trend as those from China without the “treatment” of the WTO-inconsistent U.S. antidumping duties, but distinct enough that the effects of imposing U.S. antidumping duties on China’s imports will not “spillover” on their exports. To say the least, these are demanding conditions.

131. If these three key assumptions do not hold, China’s tabular DID methodology will produce estimates that are inaccurate. In this proceeding, all three assumptions do not hold in the comparison groups constructed by China.

132. According to economic literature, the parallel trends assumption is considered the most critical assumption to “ensure internal validity of DID models and is the hardest to fulfill.”¹⁰¹ In its methodology paper, China acknowledges the importance of the parallel trends assumption,¹⁰² and asserts that it made a “considerable effort” to demonstrate that the parallel trends assumption holds for its control groups.¹⁰³ While China’s methodology paper does provide a considerable amount of discussion on the parallel trends assumption,¹⁰⁴ China, as we explain below, fails to demonstrate that the parallel trends assumption, in fact, holds in its control groups.

133. China’s proposed tabular DID methodology entirely disregards the second (stability) and third (uniformity) assumptions. The stability assumption has two implications in this context.

¹⁰⁰ Angrist and Pischke (2001) (Chapter 5.2) (Exhibit USA-23)

¹⁰¹ See overview on DID estimation published by Columbia University’s Mailman School of Public Health, available at <https://www.mailman.columbia.edu/research/population-health-methods/difference-difference-estimation>, (Exhibit USA-18)

¹⁰² China’s Methodology Paper, para. 40.

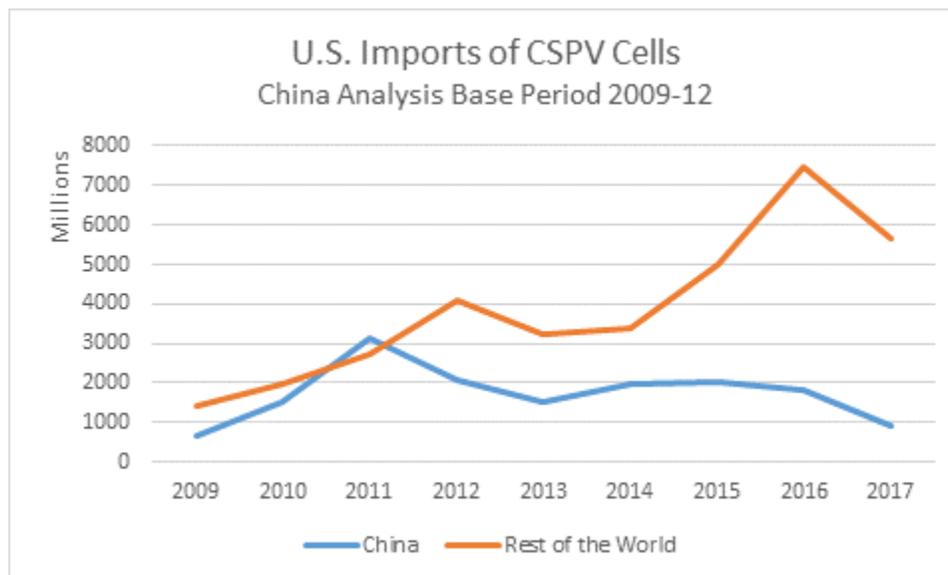
¹⁰³ China’s Methodology Paper, para. 40.

¹⁰⁴ See Figure 4 and paras. 40, 70, 100, 101, and 104 in China’s Methodology Paper.

First, stability requires that the set of “treated” and “comparison” exports remain unchanged between the initial period and 2017. However, in some significant cases (for example, *Aluminum Extrusions* and *OCTG*), the set of HS 10-codes to which antidumping duties are applied in the initial period is not the same in 2017.¹⁰⁵ Therefore, the stability assumption does not hold, and this is another reason why it is inappropriate to apply the tabular DID method.

134. The second implication of stability in this case requires China to design its comparison group such that the effects of U.S. antidumping duties on China’s exports do not have spillover effects on comparison group exports. **Figure 1** below illustrates the likely spillover effects that can be seen in the *CSPV* case. In contrast to China’s “treated” exports, exports from countries other than China increased in 2010 after U.S. antidumping duties were applied. Since it is likely that this is, at least partially, a result of the antidumping duties applied to Chinese exports, it is a spillover effect that invalidates DID analysis of this case.

Figure 1 – U.S. Imports of CSPV Cells



135. The uniformity assumption requires that the WTO-inconsistent U.S. antidumping duties be the same for all “treated” groups. This assumption is violated both in the design and in the implementation of China’s tabular DID methodology. The uniformity assumption does not hold under China’s incorrect counterfactual because U.S. antidumping duties vary across firms. Moreover, the uniformity assumption also requires that exports in the comparison group be equally “untreated.” Erroneously, three of the four comparison groups that China considers are

¹⁰⁵ Compare Table Presenting the Correct HTS Codes the 13 Products Subject to “As Applied” Findings (Exhibit USA-1) with China’s List of Cases and HS Codes, 13 “As Applied” Case (Exhibit CHN-1).

composed of total U.S. imports, including the “treated” imports from China and other countries subject to antidumping duties.

136. In short, a fundamental flaw in China’s approach is China’s failure to demonstrate that its comparison groups can reasonably be expected to satisfy the key assumptions of tabular DID methodology. In fact, the three key assumptions are likely not satisfied in all of China’s comparison groups. In what follows, we consider whether each proposed comparison group is likely to meet the key assumptions.

a. Non-Subject Countries

137. Non-subject countries are placed at a relative advantage when antidumping duties are applied to their competitor’s exports. Therefore, there are likely to be spillover effects of antidumping duties, and this comparison group fails the stability condition.

138. Additionally, a widely recognized best practice in defining an appropriate comparison group for a causal study requires an analyst to avoid selecting comparison group members based on the likely outcome of the treatment.¹⁰⁶ This best practice is followed in an effort to replicate the conditions of an experimental trial in which treatment can be applied randomly across potential subjects.

139. In this proceeding, this means that, if the motivation for the imposition of antidumping duties on subject countries was the desire to reduce the volume of imports that were unfairly priced, and the reason that antidumping duties were not applied to other countries was because they were not thought to be unfairly priced, then these two groups should not comprise treatment and control groups.

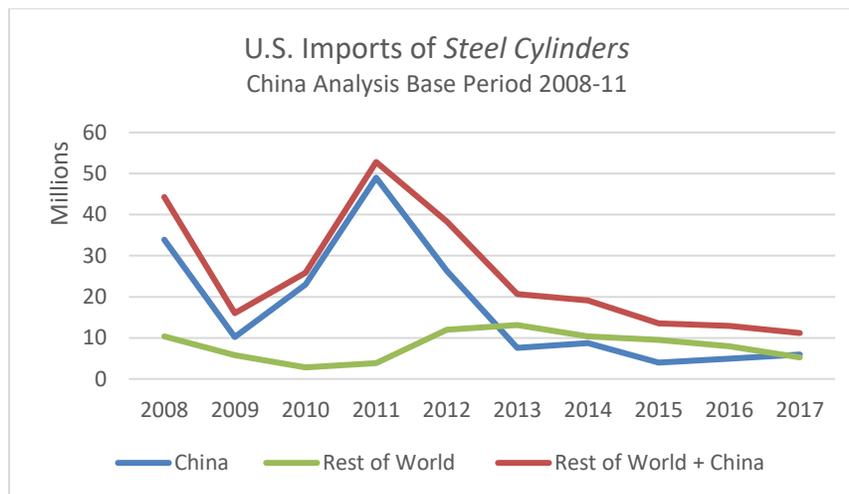
b. All Countries

140. This group includes imports from China and thus includes imports that are covered by the “treatment” (*i.e.*, WTO-inconsistent antidumping duties). It is incorrect to designate this group as a valid comparison group because it fails the uniformity assumption. To see how China’s failure to satisfy this assumption can affect the analysis, consider *Steel Cylinders*.

141. **Figure 2** below illustrates that, in *Steel Cylinders*, imports from China (blue line) are a strong contributor to the trend in imports from the world (red line). When imports from China are removed from the total (green line), it becomes clear that China has long followed a trend that is distinct from the “rest of the world.” This is particularly noticeable during the period 2008-2011, which China uses as the base period for its analysis. In effect, China is erroneously assuming that its exports would follow a path from the benchmark period to 2017 that is established by its own exports rather than by a distinct control group. This is not a basis for valid DID analysis.

¹⁰⁶ See overview on DID estimation published by Columbia University’s Mailman School of Public Health, available at <https://www.mailman.columbia.edu/research/population-health-methods/difference-difference-estimation>.

Figure 2 – Steel Cylinders



c. HS4 and HS2 Trade

142. As part of a robustness check, China assumes growth in imports of products from China that are subject to antidumping duties follows a parallel trend to growth in imports from the world (including China) for a broader set of related products. Subject products may plausibly follow a parallel trend to a carefully-designed broader group of products, but China does not appear to have constructed its comparison groups carefully.

143. For example, China asserts that imports of freshwater shrimp are comparable to imports of the broader definition of representative products composed of a four-digit HS code that includes a wide range of seafood, not just shrimp. However, China provides no evidence that U.S. demand and domestic supply conditions are such that growth in shrimp imports should be expected to follow the same trend as total imports in this wider category. Moreover, if a broad set of products is sufficiently similar to expect the parallel trends assumption to hold, antidumping duties on the subject products may induce substitution to other seafood products, thus increasing imports of seafood products. In this case, the comparison group is not valid due to spillover effects and therefore fails to satisfy the stability assumption. Furthermore, since they are based on total world imports, the HS4 and HS2 comparison groups also fail to satisfy the uniformity assumption.

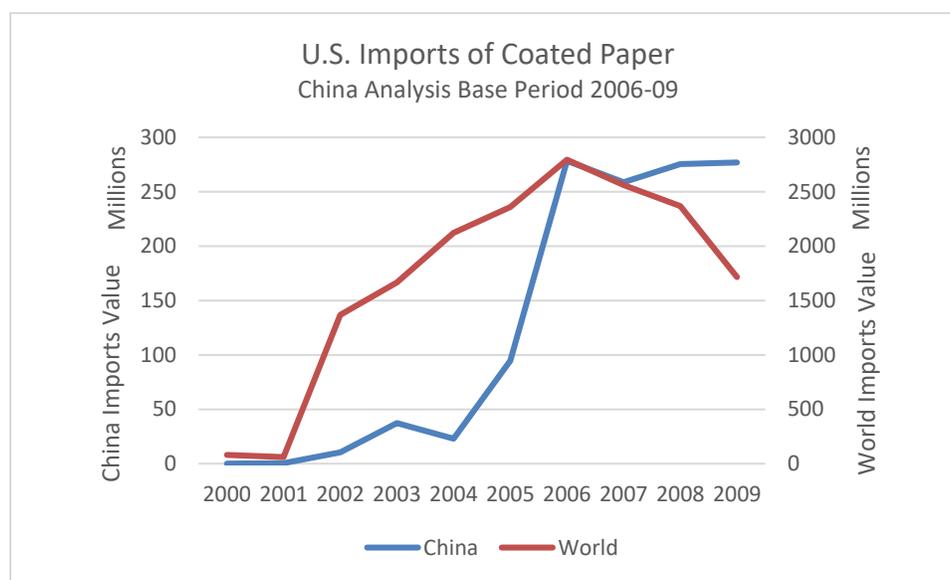
144. Thus, China's comparison groups seem likely to fail to satisfy the stability and uniformity assumptions. Moreover, in numerous products at issue in this proceeding, there is evidence demonstrating that the parallel trends assumption does not hold.

145. China could have provided the Arbitrator with evidence demonstrating that the parallel trends assumption is reasonable for its comparison groups. For instance, China could have implemented the discussion on testing parallel trends that appears in chapter 5.2 of Angrist and Pischke by graphically comparing U.S. imports from the treatment and comparison groups for an

extended period before the intervention.¹⁰⁷ If it appears defensible that the two groups have followed similar trends in the past, this may be considered evidence in favor of the parallel trends assumption. China, however, fails to do this or provide other evidence to demonstrate that the critical parallel trends assumption holds in its comparison groups.

146. To demonstrate that the parallel trends assumption is not reasonable, we implement Angrist and Pischke’s suggestion for one of China’s proposed comparison groups in the figures below. **Figures 3 and 4** illustrate U.S. imports from China (measured on the left axis) and the world (measured on the right axis) from 2000 to 2017. **Figure 3** demonstrates that, contrary to China’s assertion, it is not reasonable to assume the parallel trends assumption regarding import value from China and import value from the world holds during the period of analysis: U.S. imports from the world do not follow the same trend as imports from China during the base period of China’s model, nor do they follow China’s trend in the years prior. Thus, there is no basis in the data to expect that the parallel trends assumption would hold during the period of analysis.

Figure 3

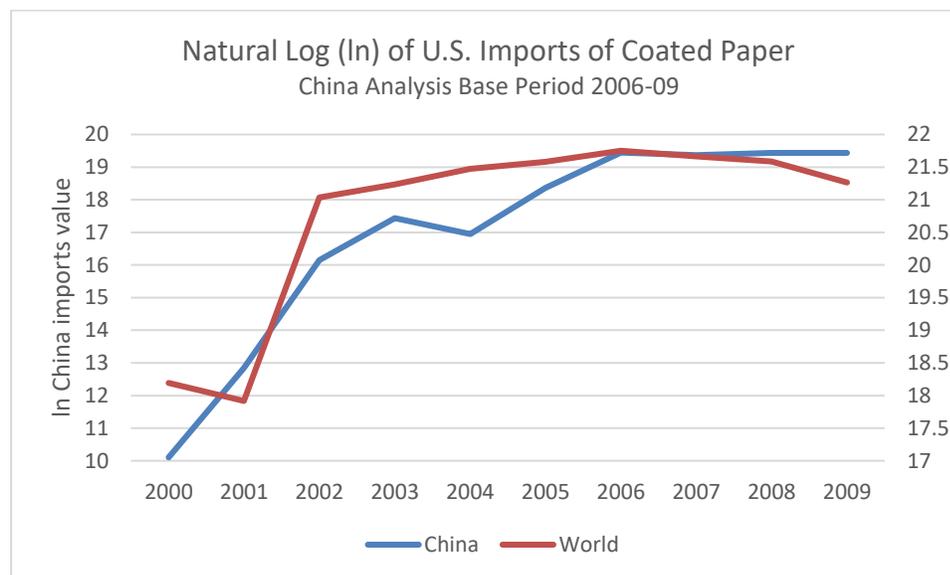


147. **Figure 4**, likewise, demonstrates why the Arbitrator cannot rely on China’s estimates regarding imports from the world as a valid comparison group under a trade growth approach. In **Figure 4**, the natural logarithm of U.S. imports is plotted. This illustrates the evolution in the growth of imports from China versus the world over time. In the benchmark period used in China’s methodology paper, imports from China grow while imports from the world decrease. Extending our examination to the five years prior to the imposition of U.S. antidumping duties reveals substantial increases in China’s exports growth while world exports growth remains flat.

¹⁰⁷ See Exhibit USA-23

This disqualifies imports from the world as a valid comparison group for China’s import growth approach

Figure 4



148. Comparing trends prior to the imposition of antidumping duties, as we have done in the graphs above, provides evidentiary support for a parallel trends assumption. Recall that the required assumption is that parallel trends would have held during the period of treatment in the absence of antidumping duties. For products where the parallel trends assumption appears to hold prior to the imposition of duties, it may be reasonable to extrapolate the validity of a comparison group only if we can assume that cross-country competitiveness in a given industry is fixed over time. China’s methodology paper, though, provides examples of variables (*e.g.*, financial crisis of 2008, macroeconomic factors, changes within industries, long time periods) that likely caused diverging cross-country trends in exports during the period the U.S. antidumping duties have been in effect for at least some products.¹⁰⁸ China incorrectly assumes these variables affected trends in U.S. imports from comparison groups and from China identically. There is no evidence that would justify such an assumption.

149. China’s failure to demonstrate that its parallel trend assumptions hold is a fatal weakness in its methodology paper and renders its estimates of the level of nullification or impairment deficient.

3. China’s Results are Not Robust

150. China fundamentally misunderstands the concept of a robustness check, which is an informative element of an observational study like China’s. Robustness checks are a way to deal

¹⁰⁸ China’s Methodology Paper, paras. 42-45.

with the problem that China itself identifies with respect to whether the parallel trends assumption holds.¹⁰⁹

151. A robustness check involves using a variety of methods to estimate the level of nullification or impairment under different but plausible assumptions. China asserts that because its DID tabular methodology provides estimates that China contends are close to the same value across comparison groups, that this proves the robustness of its approach. As discussed above, China has not chosen comparison groups that meet the standards required of an appropriate DID estimation, and China miscalculated all of its results based on the growth metric. Moreover, China's results for products where the required DID assumptions are unreasonable cannot be considered representative of the actual level of nullification or impairment.

152. In its methodology paper, China argues that it finds similar values for the level of nullification or impairment using multiple comparison groups, and China asserts that this demonstrates that its estimates are robust, meaning that they are not dependent on which comparison group or metric (import levels or import growth) is used as the basis of the analysis.¹¹⁰ China's assertion is not correct for its results are sensitive to the comparison groups and metrics in its methodology paper.

153. Many of China's estimates for different comparison groups are not similar and China certainly does not follow any standard statistical procedure to provide formal evidence to demonstrate that differences in its results are approximately zero.

154. As the calculation for *Frozen and Canned Warmwater Shrimp* shows, averaging estimates using flawed methods does not provide an accurate estimate that is equivalent to the level of nullification or impairment. Although China explains the limitations of using trade levels¹¹¹ and growth rates,¹¹² and in Exhibit CHN-5 shows the significant differences in the two sets of estimates, China presents the average of the two flawed sets of estimates as the level of nullification or impairment estimate for each case, and the sum of the inflated values across all 13 "as applied" proceedings as the total level of nullification or impairment. Specifically, China's estimates of the level of nullification and impairment using the DID trade level and DID growth rate differ by over **\$1.6 billion**, yet China presents the average, totaling \$1.218 billion, as its estimate of nullification and impairment for *Shrimp*.

¹⁰⁹ China's Methodology Paper, para. 69 (noting that "there is no way for us to prove that the difference between the treatment and comparison groups would have moved in tandem in the absence of the intervention. The reason is that we cannot observe what would have happened to the treatment group in the absence of the intervention—in other words, we cannot observe the counterfactual. Thus, when we use the DID method, we must assume that, in the absence of the program, the outcome in the treatment group would have moved in tandem with the outcome in the comparison group.")

¹¹⁰ China's Methodology Paper, para. 9 – 10.

¹¹¹ China's Methodology Paper, paras. 96 – 105.

¹¹² China's Methodology Paper, para. 47.

155. China argues that where the results of the two metrics (*i.e.*, trade levels and growth levels) diverge, “one should explore why they diverge.”¹¹³ In its methodology paper, China acknowledges that China found “differences in the two metrics on a case-by-case basis.”¹¹⁴ Nevertheless, China then contradicts its statement on exploring divergence by concluding that the differences “average out” and that its overall results are comparable using the two metrics. This is false. The estimate China presents in Exhibit CHN-5 using the growth rate method is significantly lower (\$6.68B) than the estimate derived using the trade level method (\$9.918B). This demonstrates that China’s results are not robust to the two metrics proposed by China to estimate the level of nullification or impairment. Nevertheless, China estimates the level of nullification and impairment as the average of these numbers.

156. In short, comparing results from carefully constructed comparison groups can be a part of a robustness check. And the average of these values can provide a valid estimate. Slaughter (2001), referenced by China in its methodology paper,¹¹⁵ provides examples of how to do so appropriately. China, however, has failed to provide the Arbitrator a proper robustness check.

4. China’s Methodology is Based on Incorrect Data Inputs

157. The U.S. Harmonized Tariff Schedule (“HTS”) codes China cites in Exhibit CHN-1 do not match the HTS codes included in the public notice of the USDOC’s final determinations. In some cases, China appears to have included the HTS codes that are listed in the public notice under the “may also enter” category. The “may also enter” category includes HTS codes that are generally broader than the merchandise subject to an antidumping order by the USDOC.

158. By adding these additional HTS codes, China has inappropriately broadened the category of applicable trade data, thus significantly inflating its estimate of the level of nullification or impairment. The correct HTS codes, which are included in the U.S. Federal Register Notices announcing the final determinations in the antidumping investigations for the 13 “as applied” proceedings and the 12 “as such” proceedings China discusses in its methodology paper, are included in Exhibit USA-1.

159. In addition, there can be periodic updates in the HTS codes under which merchandise subject to duties is imported into the United States. China fails to account for these changes. In the *Aluminum Extrusions* case, for example, China did not account for the revisions to the HTS codes to which duties were applied.

5. Summary of Comments Concerning China’s Flawed Approach

160. The numerous methodological and data problems with China’s estimation of the level of nullification or impairment discussed above confirm that the level of suspension requested by China is far in excess of the level of nullification or impairment.

¹¹³ China’s Methodology Paper, para. 105

¹¹⁴ China’s Methodology Paper, para. 105.

¹¹⁵ China’s Methodology Paper, para. 34.

161. In summary, this proceeding requires that each of the 25 proceedings specifically identified in China’s methodology paper¹¹⁶ be separately analyzed to determine the best methodology to calculate the level of nullification or impairment. By using a tabular DID method, China traded off simplicity for precision. China’s approach, while simple, is not suitable for the facts of this proceeding. Moreover, China compounds its flawed methodological error by relying on false assumptions and incorrect data to implement the DID tabular approach.

V. CONCLUSION

162. For the reasons set forth above, the United States respectfully requests that the Arbitrator find that the level of suspension of concessions or other obligations requested by China is not “equivalent” to the level of nullification or impairment. The United States requests that the Arbitrator find that the level of nullification or impairment is no more than **\$278 million** annually.

¹¹⁶ China identified 13 antidumping duty orders in connection with its “as applied” claims concerning the Single Rate Presumption and 4 of those 13 in connection with its as “applied claims” concerning use of the alternative, average-to-transaction comparison methodology and the use of “zeroing” in conjunction with that alternative comparison methodology in calculating a dumping margin. Also, China specifically identified and analyzed another 12 antidumping duty orders in connection with its “as such” claims concerning the Single Rate Presumption. China Methodology Paper, para. 10.